

RECORD PLANS

CONTRACTOR: PECKHAM ROAD CORPORATION - WHITE PLAINS, NY

RESIDENT ENGINEER: TIM POCKETTE

CONSTRUCTION BEGAN: APRIL 13, 2015

CONSTRUCTION COMPLETE: SEPTEMBER 28, 2015

RECORD PLANS BY: TIM POCKETTE & AARON JAMES

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY 

RESIDENT ENGINEER

DATE 07-12-2016

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

STATE OF VERMONT

AGENCY OF TRANSPORTATION

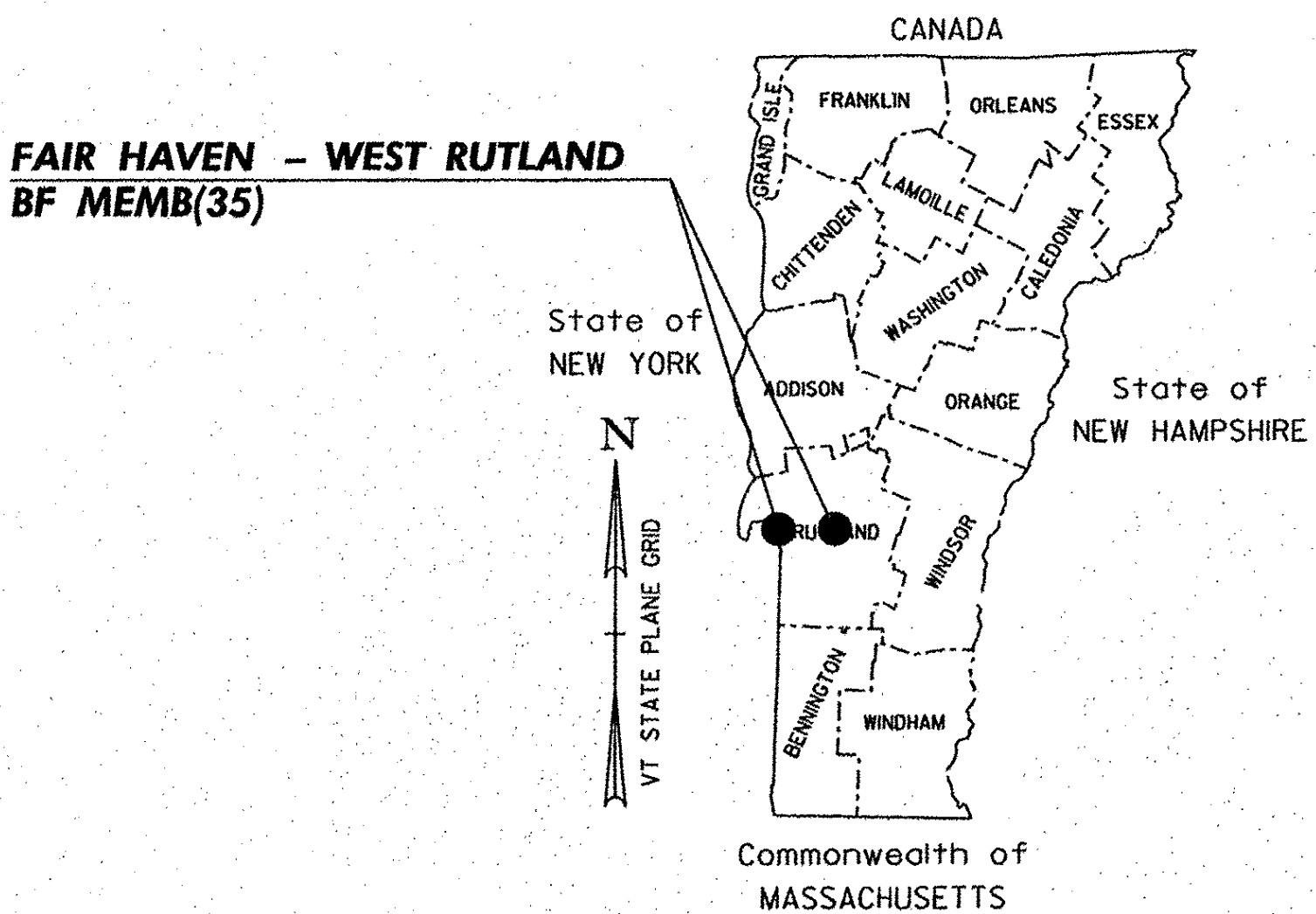


PROPOSED IMPROVEMENT

TOWNS OF FAIR HAVEN & WEST RUTLAND

COUNTY OF RUTLAND

PROJECT BF MEMB(35)



ROUTE NO.: US4

BRIDGE NO.: 5E, 5W, 13E, 15E

PROJECT LOCATIONS:

FAIR HAVEN - BR 5E OVER VT 22A (MM 1.68)

FAIR HAVEN - BR 5W OVER VT 22A (MM 1.68)

WEST RUTLAND - BR 13E OVER CLARENDON PITTSFORD RAILROAD AND CASTLETON RIVER (MM 12.95)

WEST RUTLAND - BR 15E OVER VT133 (MM 14.61)

PROJECT DESCRIPTION: THIS PROJECT INVOLVES REMOVING AND REPLACING THE SHEET MEMBRANE WATERPROOFING AND BITUMINOUS CONCRETE PAVEMENT ON THE BRIDGE AND ITS APPROACHES ALONG WITH MINOR RELATED WORK.

LENGTH OF STRUCTURES:

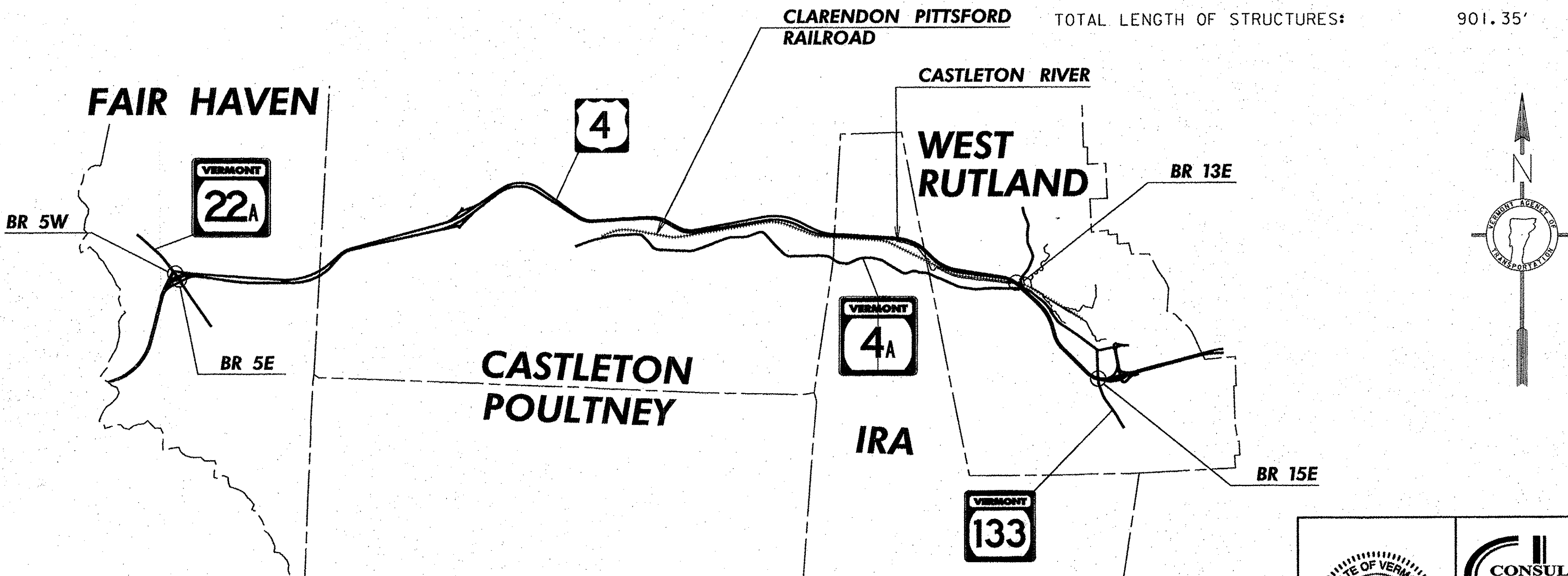
BR 5E 191.38'

BR 5W 203.49'

BR 13E 410.00'

BR 15E 96.48'

TOTAL LENGTH OF STRUCTURES: 901.35'



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2014, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL I

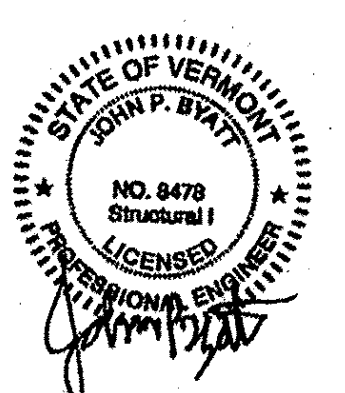
SURVEYED BY : XX

SURVEYED DATE : XX

DATUM

VERTICAL XX

HORIZONTAL XX





540 Commercial Street
Manchester, NH 03101
(603) 668-8223
www.cldengineers.com

DIRECTOR OF PROJECT DELIVERY

APPROVED  DATE 12/6/2014

PROJECT MANAGER : DOUGLAS BONNEAU, P.E.

PROJECT NAME : FAIR HAVEN-WEST RUTLAND

PROJECT NUMBER : BF MEMB (35)

SHEET 1 OF 44 SHEETS

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- 9-10. BITUMINOUS CONCRETE DETAILS SHEETS 1-2
- 11. PAVEMENT JOINT DETAIL
- 12. TRAFFIC CONTROL BARRIER SHEET
- 13.-27. REFERENCE PLANS - BRIDGES 5E AND 5W
- 28.-37. REFERENCE PLANS - BRIDGE 13E
- 38.-44. REFERENCE PLANS - BRIDGE 15E

STRUCTURES DETAIL SHEETS

08/29/11 SD-516.10 BRIDGE ASPHALTIC PLUG

VAOT STANDARD SHEETS

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08/06/12	T-12	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED
08/06/12	T-13	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED
08/06/12	T-22	TRAFFIC CONTROL FOR PAVEMENT MARKING ON DIVIDED HIGHWAY
08/06/12	T-23	TRAFFIC CONTROL FOR PAVEMENT MARKING ON DIVIDED HIGHWAY
08/06/12	T-28	CONSTRUCTION SIGN DETAILS
08/06/12	T-30	CONSTRUCTION SIGN DETAILS
08/06/12	T-31	CONSTRUCTION SIGN DETAILS

PROJECT NOTES

GENERAL

- 1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2012, AND ITS LATEST REVISIONS.
- 2. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS.
- 3. ALL COSTS ASSOCIATED WITH PROTECTION OF TRAFFIC DURING REMOVAL OF THE BRIDGE PAVEMENT WILL BE INCIDENTAL TO ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".
- 4. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE PIERS AND THE UNDERSIDE OF THE DECK. THIS WORK WILL BE PAID FOR UNDER ITEM 514.10, "WATER REPELLENT, SILANE".
- 5. FOLLOWING THE COMPLETION OF ALL OTHER CONSTRUCTION ACTIVITIES, ALL BEAM SEATS SHALL BE CLEANED OFF AND ALL FABRIC DRAIN TROUGHS, FINGER JOINT DRAIN TROUGHS, DOWNSPOUTS AND SCUPPERS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE BITUMINOUS CONCRETE REMOVAL PLAN SHALL BE THOROUGHLY FLUSHED BY THE CONTRACTOR. THE COST FOR CLEANING BEAM SEATS AND FLUSHING THE FABRIC DRAIN TROUGHS, FINGER JOINT DRAIN TROUGHS, DOWNSPOUTS AND SCUPPERS WILL BE INCIDENTAL TO ALL OTHER ITEMS IN THE CONTRACT.

TRAFFIC CONTROL

- 6. THE TRAFFIC CONTROL PLANS SHOWN ON TRAFFIC CONTROL SHEETS 1 THROUGH 3 ARE SCHEMATICS ONLY AND SHOULD BE USED AS REFERENCES. THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS DEPICTING EACH PHASE OF THE PLANNED WORK. PLANS SHALL BE SUBMITTED IN ACCORDANCE WITH SUBSECTION 105.03 AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN AN APPROPRIATE DISCIPLINE IN THE STATE OF VERMONT. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN AND MAKING ANY NECESSARY REVISIONS TO THE PLAN WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 641.10, "TRAFFIC CONTROL". THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLANS. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN FOR EACH BRIDGE.
- 7. UNLESS COVERED UNDER INDIVIDUAL PAY ITEMS OR NOTED OTHERWISE, ALL COSTS FOR WORK SHOWN ON TRAFFIC CONTROL SHEETS AND FOR TEMPORARY TRAFFIC CONTROL DEVICES INCLUDING RETROREFLECTIVE DRUMS, SIGNS, AND SIGN POSTS WILL BE CONSIDERED TO BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR ITEM 641.10, "TRAFFIC CONTROL". THE QUANTITY FOR ITEM 630.15, "FLAGGERS" AS SHOWN ON THE QUANTITY SUMMARY SHEETS WAS ESTIMATED.
- 8. TRAFFIC WILL BE ALLOWED TO DRIVE ON THE BARE CONCRETE BRIDGE DECK AFTER THE REMOVAL OF THE BARRIER MEMBRANE, AND PRIOR TO THE DECK BEING CLEANED AND PREPARED FOR THE NEW SHEET MEMBRANE. ONCE THE CONCRETE BRIDGE DECK IS PREPARED FOR THE NEW SHEET MEMBRANE, NO TRAFFIC WILL BE ALLOWED ON THE NEW MEMBRANE UNTIL THE SECOND LIFT OF BITUMINOUS CONCRETE PAVEMENT IS IN PLACE.

CONCRETE STRUCTURE AND RAIL REPAIR

- 9. REPAIRS TO DETERIORATED PORTIONS OF THE SOUTHWEST CORNER OF THE ABUTMENT NO. 3 BACKWALL OF BRIDGE NO. 5E SHALL BE PAID FOR UNDER ITEM 580.14, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II". THE QUANTITY FOR ITEM 580.14 AS SHOWN ON THE QUANTITY SUMMARY SHEET IS ESTIMATED.
- 10. A LARGE WASHOUT EXISTS AT THE SOUTHWEST CORNER OF BRIDGE NO. 5W EXTENDING BEHIND THE ABUTMENT/WINGWALL AND UNDERNEATH THE AT-GRADE APPROACH SLAB. EXISTING DEBRIS LEFTOVER FROM THE WASHOUT SUCH AS PAVEMENT AND STONE SHALL BE REMOVED. THIS WORK SHALL BE PAID FOR UNDER ITEM 204.25, "STRUCTURE EXCAVATION". FLOWABLE FILL SHALL BE USED TO FILL THE HOLE. THIS WORK SHALL BE PAID FOR UNDER ITEM 541.45, "CONTROLLED DENSITY (FLOWABLE) FILL" AND ALL FORMS OF CONTAINMENT FOR THE FLOWABLE FILL SHALL BE INCIDENTAL TO THIS ITEM. ONCE THE WASHOUT HAS BEEN FILLED, THE EXISTING SLOPE SHALL BE REGRADED ON A SLOPE NO STEEPER THAN 2H:1V AND STABILIZED WITH A MINIMUM 2'-0" OF TYPE II STONE FILL. PAYMENT FOR REGRADED THE SLOPE WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT EXCAVATION AND FILL ITEMS.
- 11. REPAIRS TO DETERIORATED PORTIONS OF THE SOUTHWEST CORNER OF THE ABUTMENT NO. 1 BACKWALL, BEAM SEAT, AND WINGWALL OF BRIDGE NO. 5W SHALL BE PAID FOR UNDER ITEM 580.14, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II". THE QUANTITY FOR ITEM 580.14 AS SHOWN ON THE QUANTITY SUMMARY SHEETS IS ESTIMATED.
- 12. REPAIRS TO DETERIORATED PORTIONS OF THE ABUTMENT NO. 3 AND NO. 4 BEAM SEATS OF BRIDGE NO. 13E SHALL BE PAID FOR UNDER ITEM 580.14, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II". THE QUANTITY FOR ITEM 580.14 AS SHOWN ON THE QUANTITY SUMMARY SHEETS IS ESTIMATED.
- 13. REPAIRS TO DETERIORATED PORTIONS OF THE ABUTMENT NO. 3 BACKWALL OF BRIDGE NO. 15E SHALL BE PAID FOR UNDER ITEM 580.14, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II". THE QUANTITY FOR ITEM 580.14 AS SHOWN ON THE QUANTITY SUMMARY SHEETS IS ESTIMATED.

PAVEMENT REMOVAL AND DECK REPAIRS

- 14. THE FINAL ONE HALF INCH OF PAVEMENT ON THE CONCRETE BRIDGE DECK (AND AT-GRADE APPROACH SLABS IF APPLICABLE) SHALL BE REMOVED BY LOADER, GRADER OR EQUIPMENT APPROVED BY THE ENGINEER. COLD PLANING TO REMOVE BRIDGE PAVEMENT WILL BE INCIDENTAL TO ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".
- 15. DURING BRIDGE (AND AT-GRADE APPROACH SLAB IF APPLICABLE) PAVEMENT REMOVAL, THE CONTRACTOR SHALL EXERCISE CARE TO INSURE THAT NO DAMAGE OCCURS TO THE EXISTING CONCRETE BRIDGE DECK (AND THE EXISTING APPROACH SLABS IF APPLICABLE). ANY DAMAGE TO THE CONCRETE BRIDGE DECK (OR AT-GRADE APPROACH SLABS IF APPLICABLE) SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. REPAIRS SHALL BE MADE IN ACCORDANCE WITH SECTION 580.
- 16. CARE SHALL BE TAKEN TO PROTECT ANY SCUPPERS OR DROP INLETS AT ALL STAGES OF CONSTRUCTION. ANY DAMAGE TO THESE STRUCTURES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE.
- 17. AFTER THE REMOVAL OF THE BRIDGE PAVEMENT, THE BARRIER MEMBRANE SHALL BE REMOVED AND THE CONCRETE BRIDGE DECK (AND AT-GRADE APPROACH SLABS IF APPLICABLE) SHALL BE CLEANED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. REMOVAL OF THE BARRIER MEMBRANE AND THE CLEANING OF THE CONCRETE BRIDGE DECK WILL BE PAID FOR UNDER ITEM 580.16, "SURFACE PREPARATION FOR MEMBRANE".
- 18. ONCE THE BARRIER MEMBRANE IS REMOVED, ANY AREAS ON THE CONCRETE BRIDGE DECK (AND AT-GRADE APPROACH SLABS IF APPLICABLE) THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE METHOD FOR DETERMINING AREAS OF UNSOUND CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE CONCRETE BRIDGE DECK (AND AT-GRADE APPROACH SLABS IF APPLICABLE) AND THE LIMITS OF THE REPAIR. THE REPAIRS SHALL BE PAID FOR UNDER ITEM 580.10, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I", ITEM 580.11, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II", OR ITEM 580.12, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III". QUANTITIES FOR ITEMS 580.10, 580.11, AND 580.12 AS SHOWN ON THE QUANTITY SUMMARY SHEETS ARE ESTIMATED.
- 19. ANY REPAIR WORK REQUIRING THE USE OF ITEM 580.20, "RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE" SHALL BE APPROVED BY THE ENGINEER.

PAVEMENT AND MEMBRANE

- 20. UPON THE ENGINEER'S APPROVAL OF THE CONCRETE BRIDGE DECK'S CONDITION, ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 519. THE CONTRACTOR SHALL NOT INSTALL ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" WHEN THE DECK CONCRETE AND/OR DECK PATCH AREAS' MOISTURE CONTENT IS ABOVE SECTION 519 SPECIFICATIONS OR MANUFACTURER'S SPECIFICATIONS, WHICHEVER IS LESS.
- 21. FOLLOWING THE INSTALLATION OF THE NEW SHEET MEMBRANE WATERPROOFING ON THE CONCRETE BRIDGE DECK, THE CONCRETE BRIDGE DECK (AND THE AT-GRADE APPROACH SLABS IF APPLICABLE) SHALL BE PAVED CURB TO CURB WITH ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)" IN TWO 1½" LIFTS. THE PAVEMENT SHALL BE TYPE IVS FOR BOTH LIFTS, NO EXCEPTIONS.
- 22. CARE SHALL BE EXERCISED TO SMOOTHLY TRANSITION THE NEW BRIDGE PAVEMENT INTO THE EXISTING PAVEMENT. ANY COLD PLANING NECESSARY FOR SHAPING BRIDGE APPROACHES SHALL BE PAID FOR UNDER ITEM 210.10, "COLD PLANING, BITUMINOUS PAVEMENT".
- 23. TESTING FOR PAVEMENT DENSITY WILL REQUIRE CORES OF THE PAVEMENT ON THE BRIDGE. THE COST FOR THIS WORK WILL BE INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)". ANY DAMAGE TO THE NEW SHEET MEMBRANE CAUSED BY CORING THE PAVEMENT SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE.
- 24. FOR PG BINDER GRADE SEE THE SPECIAL PROVISIONS FOR PAY ITEM 900.680.
- 25. EMULSIFIED ASPHALT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY TO ALL COLD PLANED SURFACES AND AT A RATE OF 0.03 TO 0.04 GAL/SY BETWEEN PAVEMENT LIFTS. PAYMENT SHALL BE UNDER ITEM 404.65, "EMULSIFIED ASPHALT".
- 28. THE CONTRACTOR SHALL INSTALL TEMPORARY PAVEMENT MARKINGS ON ALL PAVED SURFACES THAT WILL NOT HAVE THE PERMANENT MARKINGS APPLIED WITHIN 14 CALENDAR DAYS OF THE FINAL PAVING OPERATIONS AS DIRECTED BY THE ENGINEER.
- 29. UPON COMPLETION OF ALL PAVING OPERATIONS, FINAL PAVEMENT MARKINGS SHALL BE INSTALLED TO REPLICATE THE EXISTING CONFIGURATION.

PROJECT NAME: FAIR HAVEN-WEST RUTLAND
PROJECT NUMBER: BF MEMB(35)

FILE NAME: z13b062-notes.dgn	PLOT DATE: 12/3/2014
PROJECT LEADER: JPB	DRAWN BY: MWS
DESIGNED BY: SRB	CHECKED BY: JPB
INDEX OF SHEETS AND PROJECT NOTES	SHEET 2 OF 44

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES													TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
							ROADWAY	BRIDGE NO. 5E	BRIDGE NO. 5W	BRIDGE NO. 13E	BRIDGE NO. 15E	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1						1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
									20				20		CY	STRUCTURE EXCAVATION	204.25				
									20				20		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
								302	302	254	271		1129		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
								12	13	17	9		51		CWT	EMULSIFIED ASPHALT	404.65				
							1						1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
								30	37	38	22		127		GAL	WATER REPELLENT, SILANE	514.10				
								38	38	62	82		220		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
								780	830	1367	408		3385		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
								74	74	60	76		284		LF	JOINT SEALER, HOT POURED	524.11				
								968	1017	1514	644		4143		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
									30				30		CY	CONTROLLED DENSITY (FLOWABLE) FILL	541.45				
								39	42	69	21		171		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10				
								117	125	205	62		509		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11				
								3	3	31	3		40		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12				
								10	30	20	10		70		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14				
								7018	7462	12300	3667		30447		SF	SURFACE PREPARATION FOR MEMBRANE	580.16				
								10	10	10	10		40		CF	RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE	580.20				
								5	5		5		15		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
								5	5		5		15		HR	TRUCK RENTAL	608.37				
								221	235	388	116		960		HR	TRUCK-MOUNTED ATTENUATOR	608.45				
									20				20		CY	STONE FILL, TYPE II	613.11				
								16	17	33	8		74		GAL	REPOINTING GRANITE BRIDGE CURB	616.225				
								3	2	2	2		9		EACH	ENERGY ABSORPTION ATTENUATOR	621.56				
								661	673	226	581		2141		LF	TEMPORARY TRAFFIC BARRIER	621.90				
								661	673	226	581		2141		LF	REMOVE AND RESET TEMPORARY TRAFFIC BARRIER	621.95				
								74	79	130	39		322		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
								150	150	150	150		600		HR	FLAGGERS	630.15				
												1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
												1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
												1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
												3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
							1						1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
										1			1		LS	TRAFFIC CONTROL (US ROUTE 4 - BRIDGE NO. 13E)	641.10				
											1		1		LS	TRAFFIC CONTROL (US ROUTE 4 - BRIDGE NO. 15E)	641.10				
								1					1		LS	TRAFFIC CONTROL (US ROUTE 4 - BRIDGE NO. 5E)	641.10				
									1				1		LS	TRAFFIC CONTROL (US ROUTE 4 - BRIDGE NO. 5W)	641.10				
								2	2	2	2		8		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
								1	1	1	1		4		EACH	PORTABLE ARROW BOARD	641.16				
								400	450	700	350		1900		LF	6 INCH WHITE LINE	646.214				

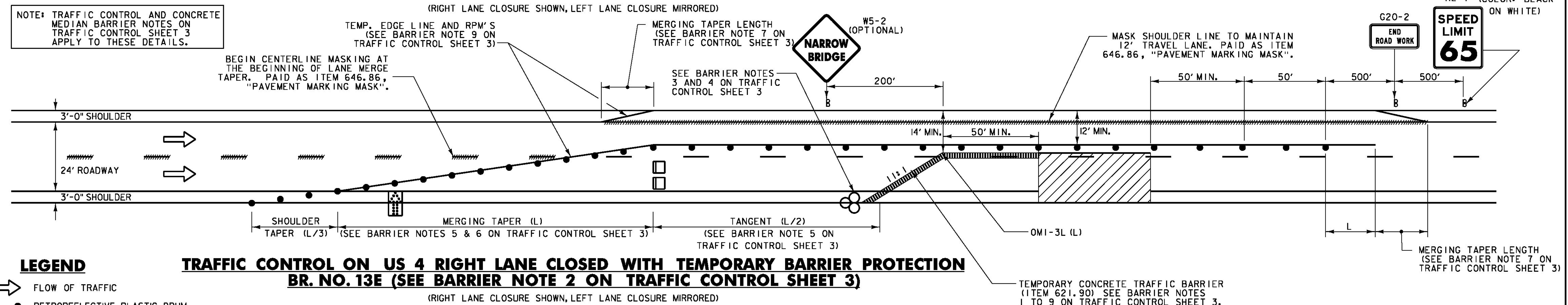
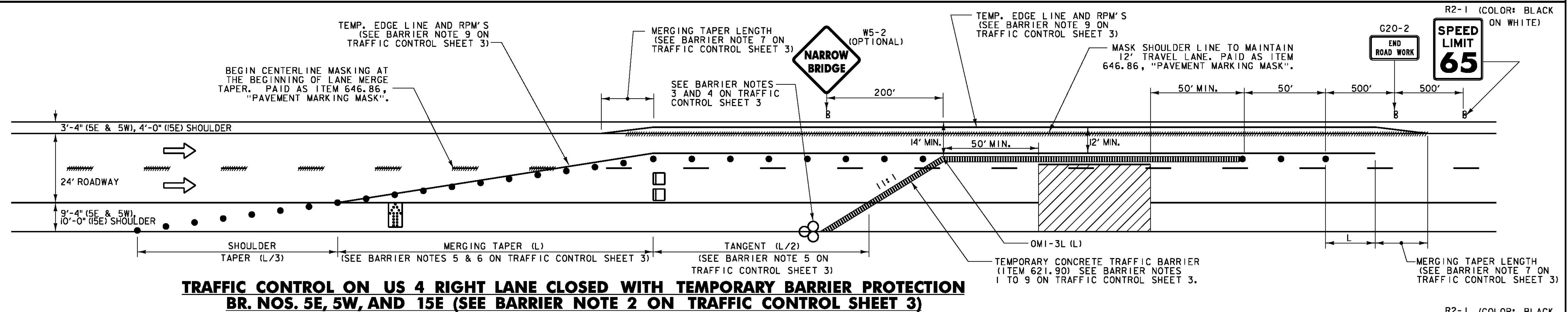
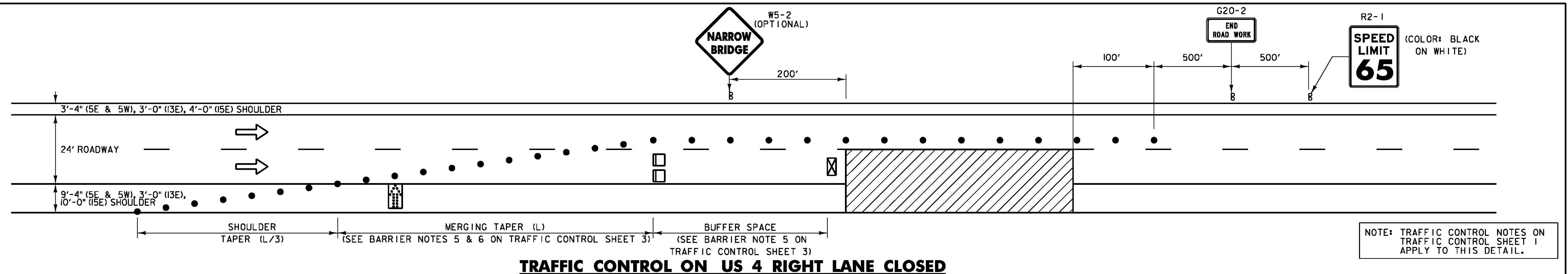
PROJECT NAME: FAIR HAVEN-WEST RUTLAND
PROJECT NUMBER: BF MEMB(35)

FILE NAME: z13b062-qss.dgn
PROJECT LEADER: JPB
DESIGNED BY: SRB
QUANTITY SHEET 1

PLOT DATE: 1/20/2015
DRAWN BY: SRB
CHECKED BY: AEG
SHEET 3 OF 44

[illegible][illegible][illegible]

PROJECT NAME:	FAIR HAVEN-WEST RUTLAND		
PROJECT NUMBER:	BF MEMB(35)		
FILE NAME:	z13b062-tcpl.dgn	PLOT DATE:	12/3/2014
PROJECT LEADER:	JPB	DRAWN BY:	MWS
DESIGNED BY:	SRB	CHECKED BY:	JPB
TRAFFIC CONTROL SHEET I		SHEET	5 OF 44



LEGEND

- ➔ FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- ▤ PORTABLE ARROW BOARD (ITEM 641.16)
- TYPE III BARRICADE
- ▨ WORK AREA
- ⊠ TRUCK-MOUNTED ATTENUATOR (ITEM 608.45)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN (ITEM 641.15) (SEE NOTE 17 ON TRAFFIC CONTROL SHEET 1)
- ⊗ ENERGY ABSORPTION ATTENUATOR (ITEM 621.56)

POSTED SPEED (MPH)	TAPER LENGTHS (FT)		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MINIMUM)	MINIMUM BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE (L)				TAPER (S)	TANGENT (2S)
≤40	90	320	160	1:9	305	40	80
45	150	540	270	1:9	360	45	90
50	170	600	300	1:11	425	50	100
55	185	660	330	1:13	495	55	110
60	200	720	360	1:13	570	60	120
65	215	780	390	1:13	645	65	130

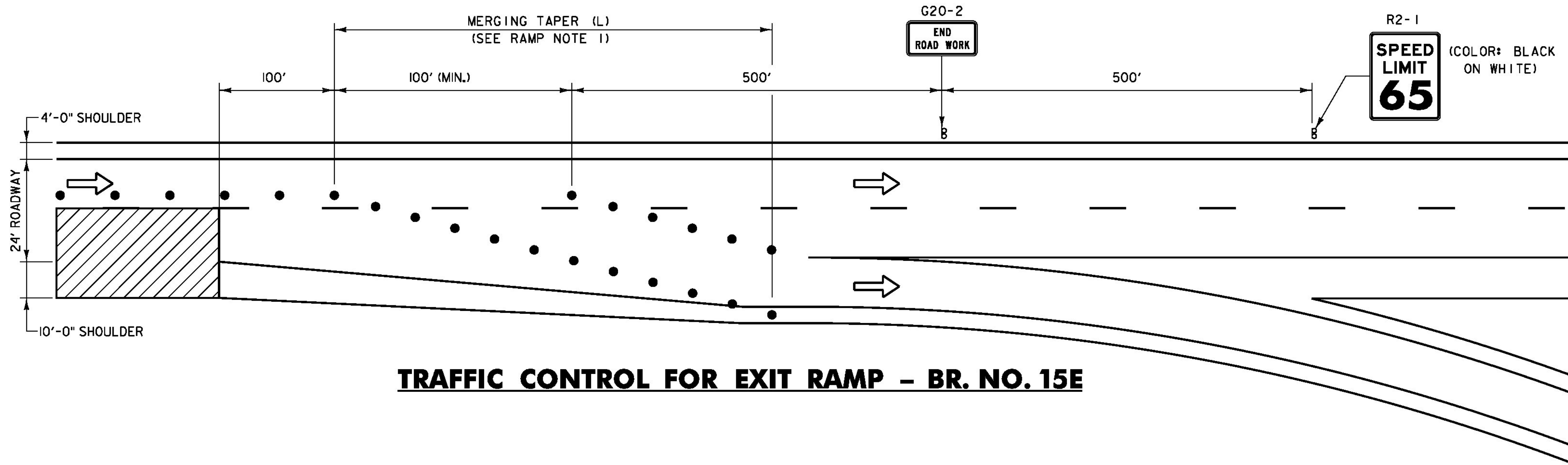
TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:
 $L = WS$ FOR POSTED SPEEDS OF 45 MPH OR GREATER
 $L = WS/60$ FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET. (TYPICAL)
S = POSTED SPEED IN MPH

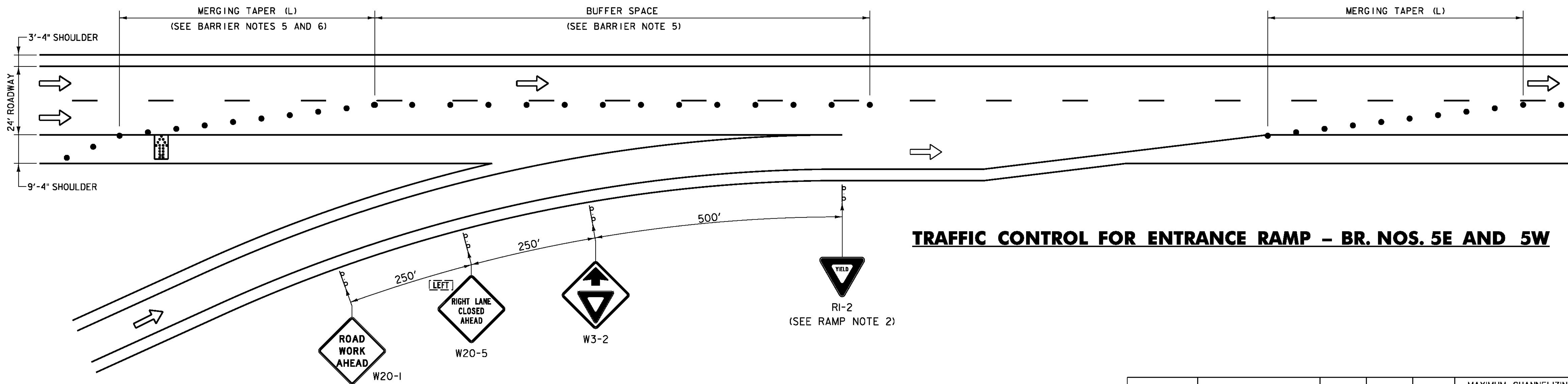
PROJECT NAME: FAIR HAVEN-WEST RUTLAND
PROJECT NUMBER: BF MEMB(35)

FILE NAME: z13b062-tcp2.dgn
PROJECT LEADER: JPB
DESIGNED BY: SRB
TRAFFIC CONTROL SHEET 2

PLOT DATE: 1/20/2015
DRAWN BY: MWS
CHECKED BY: JPB
SHEET 6 OF 44



TRAFFIC CONTROL FOR EXIT RAMP – BR. NO. 15E



TRAFFIC CONTROL FOR ENTRANCE RAMP – BR. NOS. 5E AND 5W

TRAFFIC CONTROL AND
CONCRETE MEDIAN BARRIER NOTES:

- SEE TRAFFIC CONTROL SHEETS 1 AND 2 FOR ADDITIONAL NOTES AND APPROACH SIGNING FOR THE RIGHT LANE CLOSURE.
- IF THE LANE CLOSURE IS TO LAST LONGER THAN 3 DAYS, THE CONTRACTOR SHALL USE TEMPORARY TRAFFIC BARRIER AS SHOWN ON THIS SHEET AND PAID FOR AS ITEM 621.90, "TEMPORARY TRAFFIC BARRIER". TEMPORARY TRAFFIC BARRIER SHALL BE A CONCRETE MEDIAN BARRIER (CMB) TYPE. STEEL BEAM GUARDRAIL WILL NOT BE ALLOWED FOR USE AS A TEMPORARY TRAFFIC BARRIER. WHEN ONE SIDE OF THE BRIDGE IS COMPLETE, MOVING THE BARRIER TO CLOSE THE OTHER SIDE TO TRAFFIC WILL BE PAID FOR AS ITEM 621.95, "REMOVE AND RESET TEMPORARY TRAFFIC BARRIER".
- THE END OF THE BARRIER FACING APPROACHING TRAFFIC SHALL MEET THE FOLLOWING REQUIREMENTS.
 - WHEN NO GUARDRAIL IS PRESENT, A 30' OFFSET SHALL BE USED FROM THE EDGE OF TRAVELED WAY. IF A 30' OFFSET IS NOT ATTAINABLE, THEN AN ENERGY ABSORPTION ATTENUATOR SHALL BE LOCATED AT THE END OF THE BARRIER.
 - IF GUARDRAIL IS PRESENT, THEN TEMPORARY CONCRETE TRAFFIC BARRIER SHALL BE CONNECTED TO EXISTING GUARDRAIL (COST INCIDENTAL TO ITEM 621.90, "TEMPORARY TRAFFIC BARRIER"). (COSTS FOR DISMANTLING BARRIER CONNECTION AND RESTORING EXISTING BARRIER TO ORIGINAL CONFIGURATION SHALL BE INCIDENTAL TO ITEM 621.90, "TEMPORARY TRAFFIC BARRIER".) SEE BARRIER RAIL DETAILS ON SHEET 12. AN ENERGY ABSORPTION ATTENUATOR SHALL BE LOCATED AT THE END OF THE BARRIER.

- THE QUANTITIES INCLUDE TWO ENERGY ABSORPTION ATTENUATORS PER BRIDGE, AND ONE BACKUP ATTENUATOR FOR THE PROJECT (INCLUDED IN QUANTITY FOR BRIDGE NO. 5E) TO BE USED IN THE EVENT AN IN-SERVICE ATTENUATOR IS DAMAGED AND NEEDS TO BE REPLACED. THE COST FOR THE ATTENUATORS AND TO MOVE ATTENUATORS FOR SHIFTING LANE CLOSURES SHALL BE PAID FOR AS ITEM 621.56, "ENERGY ABSORPTION ATTENUATOR". THE COST FOR ENERGY ABSORPTION ATTENUATORS USED FOR ANY OTHER TRAFFIC CONTROL SETUP SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
- AT THE DISCRETION OF THE ENGINEER, MERGING TAPER, BUFFER SPACE, AND TANGENT LENGTHS MAY BE EXTENDED BEYOND MINIMUM VALUES, ESPECIALLY IN CLOSE PROXIMITY TO INTERCHANGE RAMP, CURVES, OR OTHER INFLUENCING FACTORS.
- EXTEND MERGING TAPER TO ACCOUNT FOR REQUIRED LANE SHIFT OFFSET.
- PROVIDE MERGING TAPER LENGTH AS REQUIRED FOR LANE SHIFT.
- TEMPORARY TAPE EDGELINES SHALL BE APPLIED AND SHALL MAINTAIN A ONE FOOT MINIMUM DISTANCE FROM THE BARRIER WITH TWO FEET BEING DESIRABLE.
- THE RAISED PAVEMENT MARKERS (RPM'S), TYPE II SHALL BE PLACED TO THE OUTSIDE OF THE TEMPORARY TAPE PAVEMENT MARKINGS. THE RPM'S SHALL BE SPACED AT 20 FEET AND SHALL BE PAID FOR UNDER ITEM 646.75, "RAISED PAVEMENT MARKERS, TYPE II".
- DASHED LINE REMOVAL SHALL BEGIN 750 FEET IN ADVANCE OF THE BEGINNING OF THE SHOULDER TAPER FOR TRAFFIC CONTROL WITH TEMPORARY BARRIER PROTECTION.

POSTED SPEED (MPH)	TAPER LENGTHS (FT)		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MINIMUM)	MINIMUM BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE (L)				TAPER (S)	TANGENT (2S)
≤40	90	320	160	1:9	305	40	80
45	150	540	270	1:9	360	45	90
50	170	600	300	1:11	425	50	100
55	185	660	330	1:13	495	55	110
60	200	720	360	1:13	570	60	120
65	215	780	390	1:13	645	65	130

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:
 $L = WS$ FOR POSTED SPEEDS OF 45 MPH OR GREATER
 $L = WS^2/60$ FOR POSTED SPEEDS OF 40 MPH OR LESS

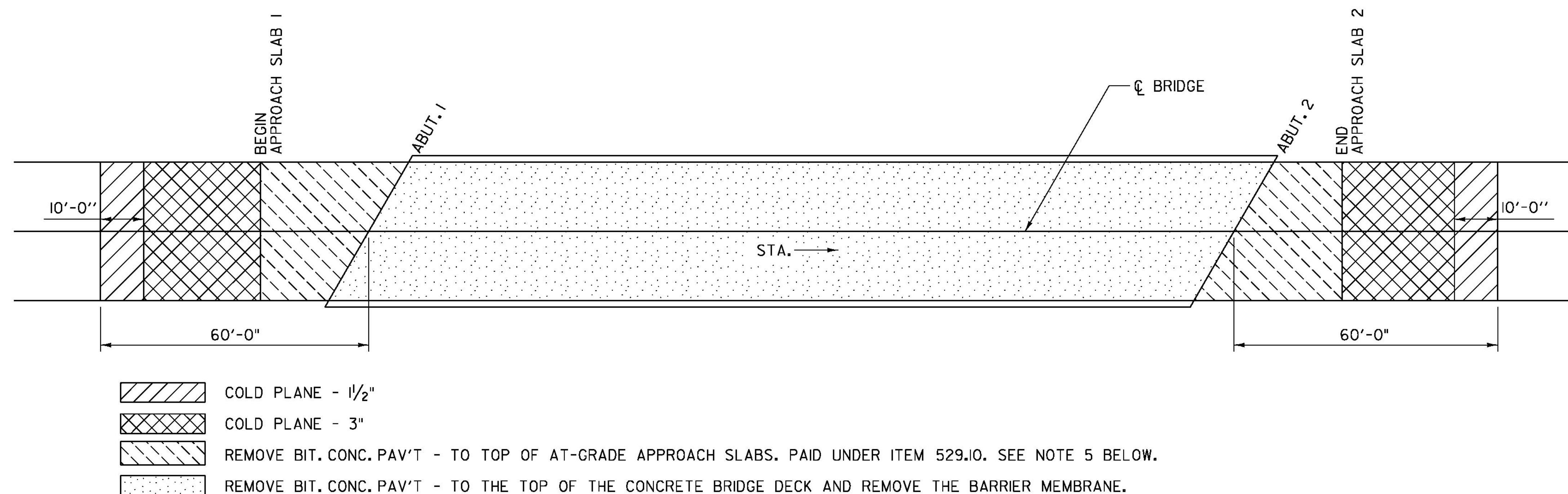
L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET, (TYPICAL)
S = POSTED SPEED IN MPH

PROJECT NAME: FAIR HAVEN-WEST RUTLAND
PROJECT NUMBER: BF MEMB(35)

FILE NAME: z13b062-tcp3.dgn
PROJECT LEADER: JPB
DESIGNED BY: SRB
TRAFFIC CONTROL SHEET 3
PLOT DATE: 12/3/2014
DRAWN BY: MWS
CHECKED BY: JPB
SHEET 7 OF 44

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- PORTABLE ARROW BOARD (ITEM 641.16)
- WORK AREA



NOTE:

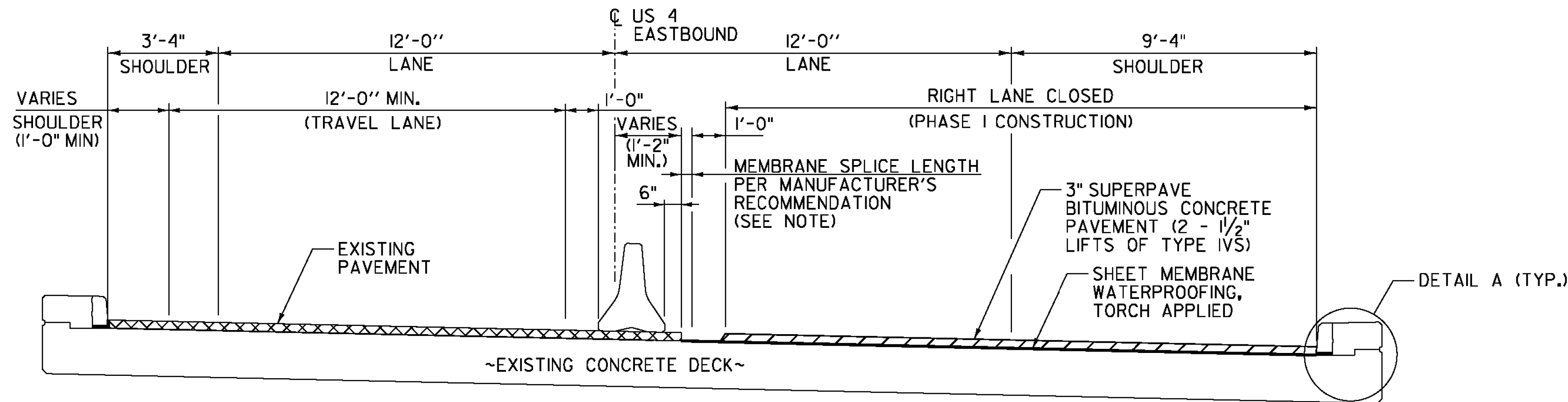
1. COLD PLANING WILL BE PAID FOR UNDER ITEM 210.I0 EXCEPT AS OTHERWISE SPECIFIED IN NOTE 14 ON SHEET 2.
2. REMOVAL OF THE BITUMINOUS CONCRETE PAVEMENT WILL BE PAID FOR UNDER ITEM 529.I0.
3. REMOVAL OF THE BARRIER MEMBRANE WILL BE PAID FOR UNDER ITEM 580.I6.
4. IN THE EVENT THAT COLD PLANING OF THE RIGHT ROADWAY SHOULDERS ALONG BRIDGE APPROACHES EXPOSES GRAVEL SUBBASE, THE CONTRACTOR SHALL REMOVE 2" OF GRAVEL SUBBASE, PREPARE THE AREA AS DIRECTED BY THE ENGINEER, AND PROVIDE 2" BASE PAVEMENT, IN ADDITION TO THE 3" PAVEMENT TO BE PLACED IN ALL OTHER LOCATIONS PER TYPICAL APPROACH SECTION ON BITUMINOUS CONCRETE DETAILS SHEET 1. FOR BRIDGE NOS. 5E, 5W, AND 15E, 56 ADDITIONAL TONS HAVE BEEN INCLUDED IN THE ESTIMATED QUANTITY FOR ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)" TO ADDRESS THIS WORK. WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR BASE PREPARATION WILL BE PAID FOR UNDER EQUIPMENT RENTAL ITEMS.
5. FOR AT-GRADE APPROACH SLABS, NO MORE THAN 4" OF PAVEMENT SHALL BE REMOVED.
6. ANY MILLED RUMBLE STRIPS ENCOUNTERED WITHIN THE LIMITS OF THE COLD PLANE AREA SHALL BE REMOVED.

BITUMINOUS CONCRETE REMOVAL & REPLACEMENT PLAN

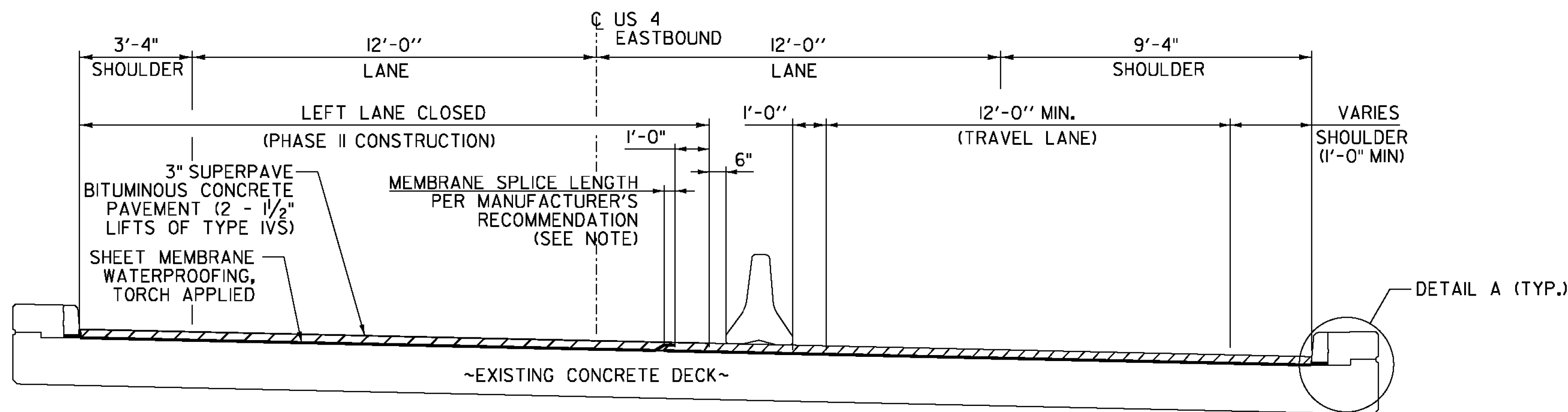
NOT TO SCALE

PROJECT NAME: FAIR HAVEN-WEST RUTLAND
PROJECT NUMBER: BF MEMB(35)

FILE NAME: z13b062-removal.dgn	PLOT DATE: 12/3/2014
PROJECT LEADER: JPB	DRAWN BY: MWS
DESIGNED BY: SRB	CHECKED BY: JPB
BITUMINOUS CONCRETE REMOVAL PLAN	SHEET 8 OF 44

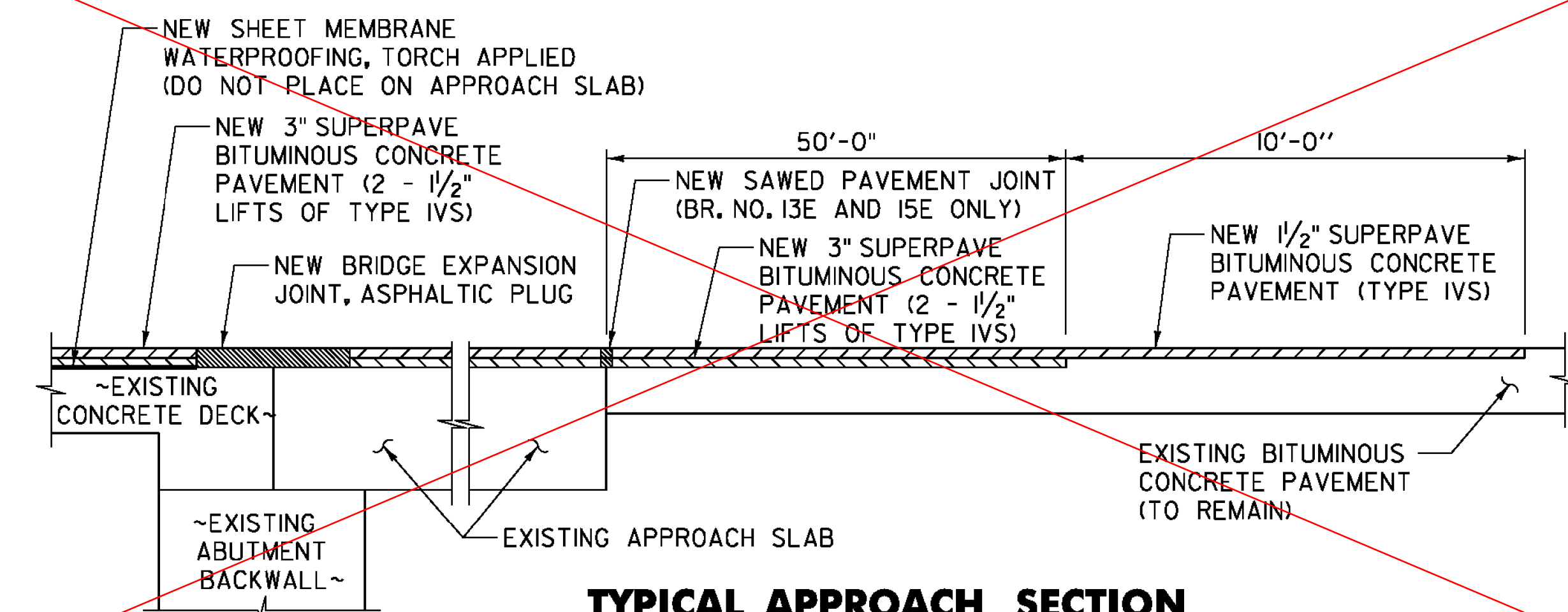


TYPICAL SECTION - PHASE I CONSTRUCTION - BRIDGE NO. 5E
NOT TO SCALE



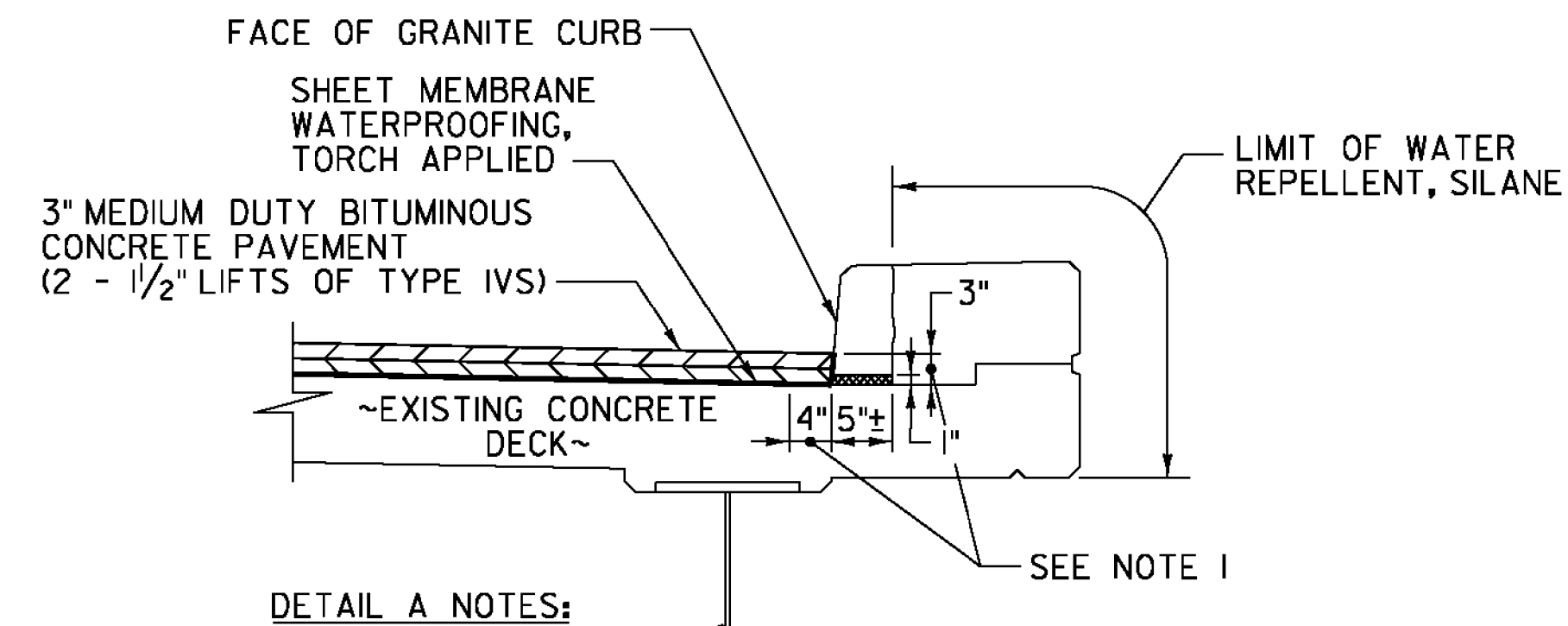
TYPICAL SECTION - PHASE II CONSTRUCTION - BRIDGE NO. 5E
NOT TO SCALE

NOTE: PLACEMENT OF THE MEMBRANE SHALL START AT THE LOW SIDE OF THE BRIDGE. THE SPLICE SHALL BE AS SHOWN ABOVE, WITH THE HIGH SIDE OVERLAPPING THE LOW SIDE.



TYPICAL APPROACH SECTION
NOT TO SCALE

* COLD PLANING DONE PER
DETAIL ON SHEET 8 OF 44.



DETAIL A NOTES:

- INDICATES AREA ALONG DECK AND UP FACE OF CURB FOR PLACEMENT OF TWO COATS OF POLYURETHANE MEMBRANE.
- POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.
- SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN.
- IN ADDITION TO THE REQUIREMENTS OF SUBSECTION 519.04, BLAST CLEAN 3" UP THE FACE OF CURB PRIOR TO PLACING THE MEMBRANE.
- REPOINTING OF THE GRANITE CURB SHALL BE REQUIRED AND PAID FOR UNDER ITEM 616.225, "REPOINTING GRANITE BRIDGE CURB". THE QUANTITY FOR THIS ITEM AS SHOWN ON THE QUANTITY SHEET IS ESTIMATED.

DETAIL A
NOT TO SCALE

**BRIDGE LENGTH AND WIDTH
(CURB TO CURB)**

BRIDGE NO.	WIDTH (CURB TO CURB) (FEET)	LENGTH (FEET)
5E	36.67	191.38
5W	36.67	203.49
13E	30.00	410.00
15E	38.00	96.48

MATERIAL TOLERANCES
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	
SAND BORROW	+/- 1"

**SAWED PAVEMENT JOINT
REPLACEMENT SCHEDULE**

BRIDGE NO.	APPROACH SLAB 1/3	APPROACH SLAB 2/4
5E	37 LF	37 LF
5W	37 LF	37 LF
13E	30 LF	30 LF
15E	38 LF	38 LF

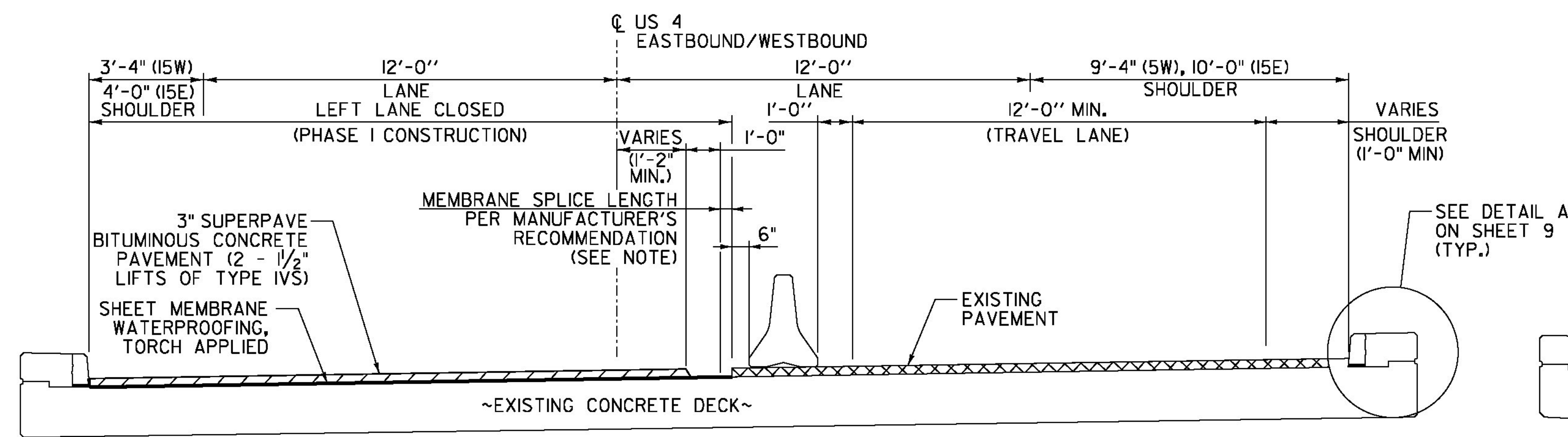
ASPHALTIC PLUG JOINT REPLACEMENT SCHEDULE

BRIDGE NO.	ABUT. 1/3	PIER 1/5	PIER 2/6	PIER 3/7	PIER 4/8	ABUT. 2/4
5E	38 LF	-	-	-	-	0 LF
5W	38 LF	-	-	-	-	0 LF
13E	31 LF	-	-	-	-	31 LF
15E	41 LF	-	-	-	-	41 LF

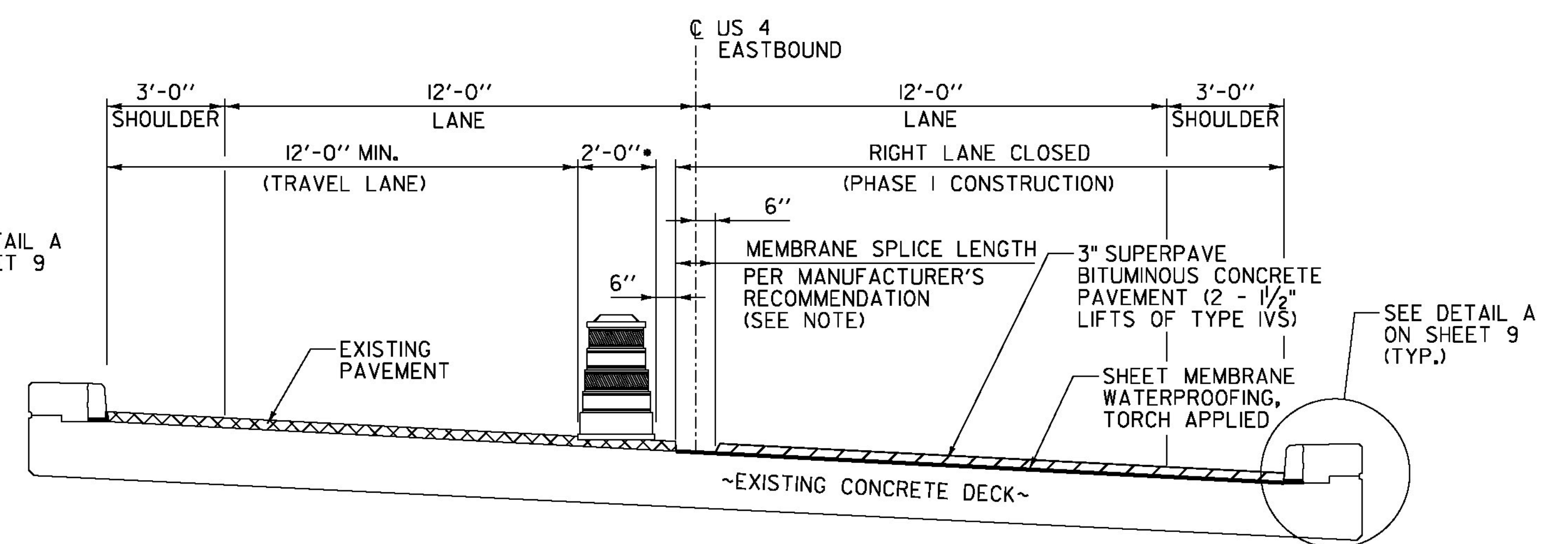
PROJECT NAME: FAIR HAVEN-WEST RUTLAND
PROJECT NUMBER: BF MEMB(35)

FILE NAME: z13b062-sec1.dgn
PROJECT LEADER: JPB
DESIGNED BY: SRB
BITUMINOUS CONCRETE DETAILS SHEET 1

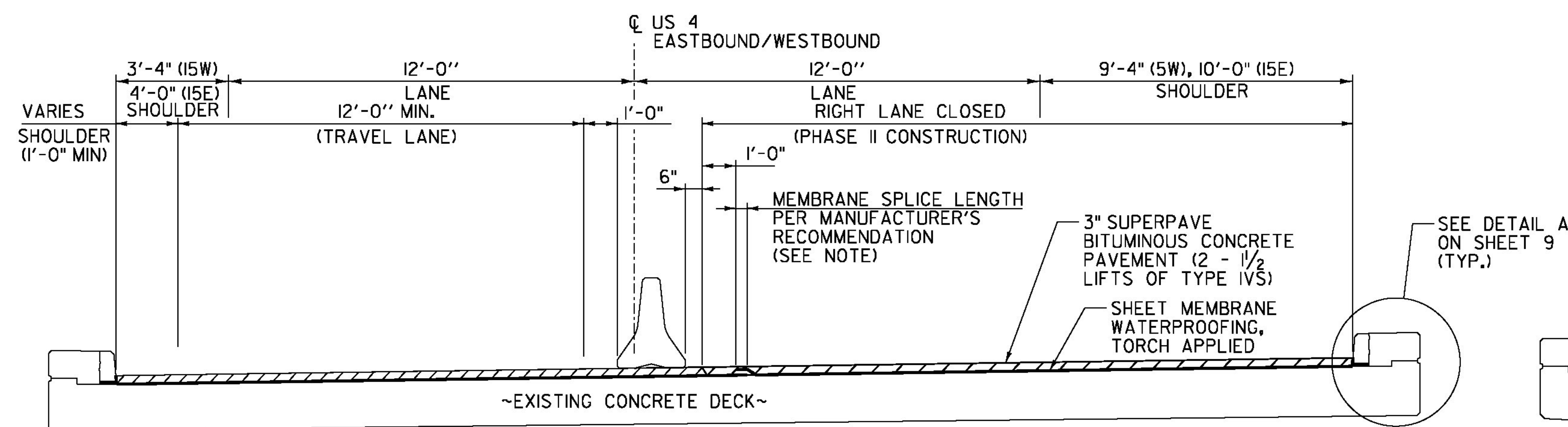
PLOT DATE: 12/3/2014
DRAWN BY: MWS
CHECKED BY: JPB
SHEET 9 OF 44



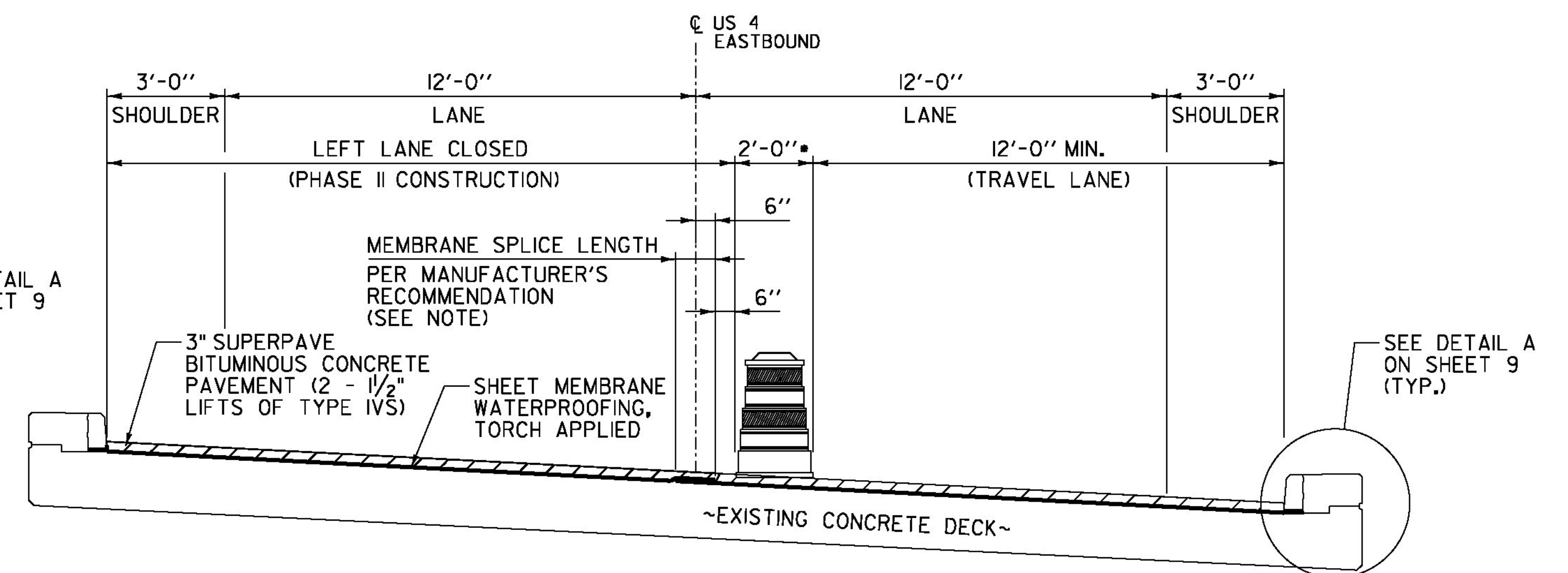
TYPICAL SECTION - PHASE I CONSTRUCTION - BRIDGE NO. 5W & 15E
NOT TO SCALE



TYPICAL SECTION - PHASE I CONSTRUCTION - BRIDGE NO. 13E
NOT TO SCALE



TYPICAL SECTION - PHASE II CONSTRUCTION - BRIDGE NO. 5W & 15E
NOT TO SCALE

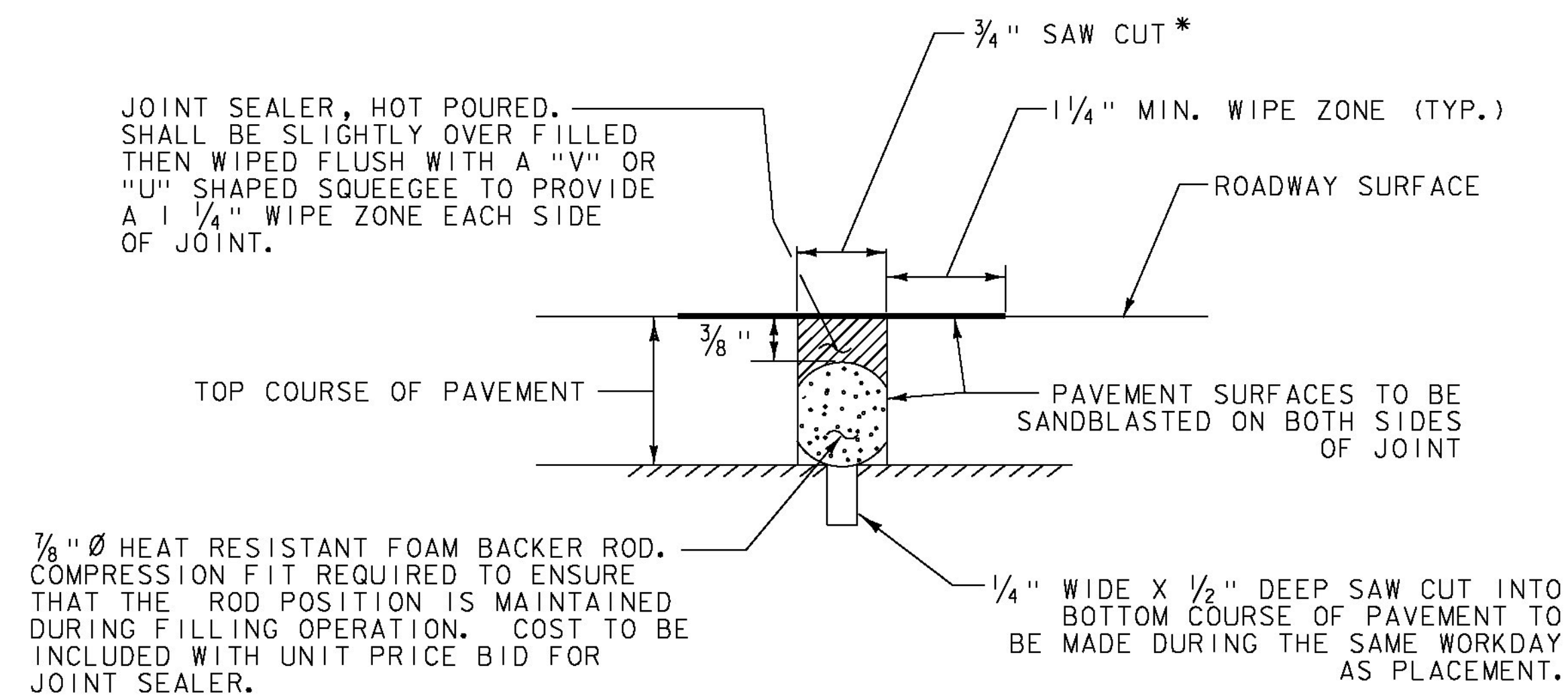


TYPICAL SECTION - PHASE II CONSTRUCTION - BRIDGE NO. 13E
NOT TO SCALE

- TEMPORARY BARRELS SHALL BE MOVED AND REPLACED AS NECESSARY TO ACCOMMODATE OVERSIZED VEHICLES AND CONSTRUCTION ACTIVITIES. PAYMENT SHALL BE INCIDENTAL TO ITEM 641.10.

NOTE: PLACEMENT OF THE MEMBRANE SHALL START AT THE LOW SIDE OF THE BRIDGE. THE SPLICE SHALL BE AS SHOWN ABOVE, WITH THE HIGH SIDE OVERLAPPING THE LOW SIDE.

PROJECT NAME: FAIR HAVEN-WEST RUTLAND	
PROJECT NUMBER: BF MEMB(35)	
FILE NAME: z13b062-sec+.dgn	PLOT DATE: 12/3/2014
PROJECT LEADER: JPB	DRAWN BY: MWS
DESIGNED BY: SRB	CHECKED BY: JPB
BITUMINOUS CONCRETE DETAILS SHEET 2	SHEET 10 OF 44



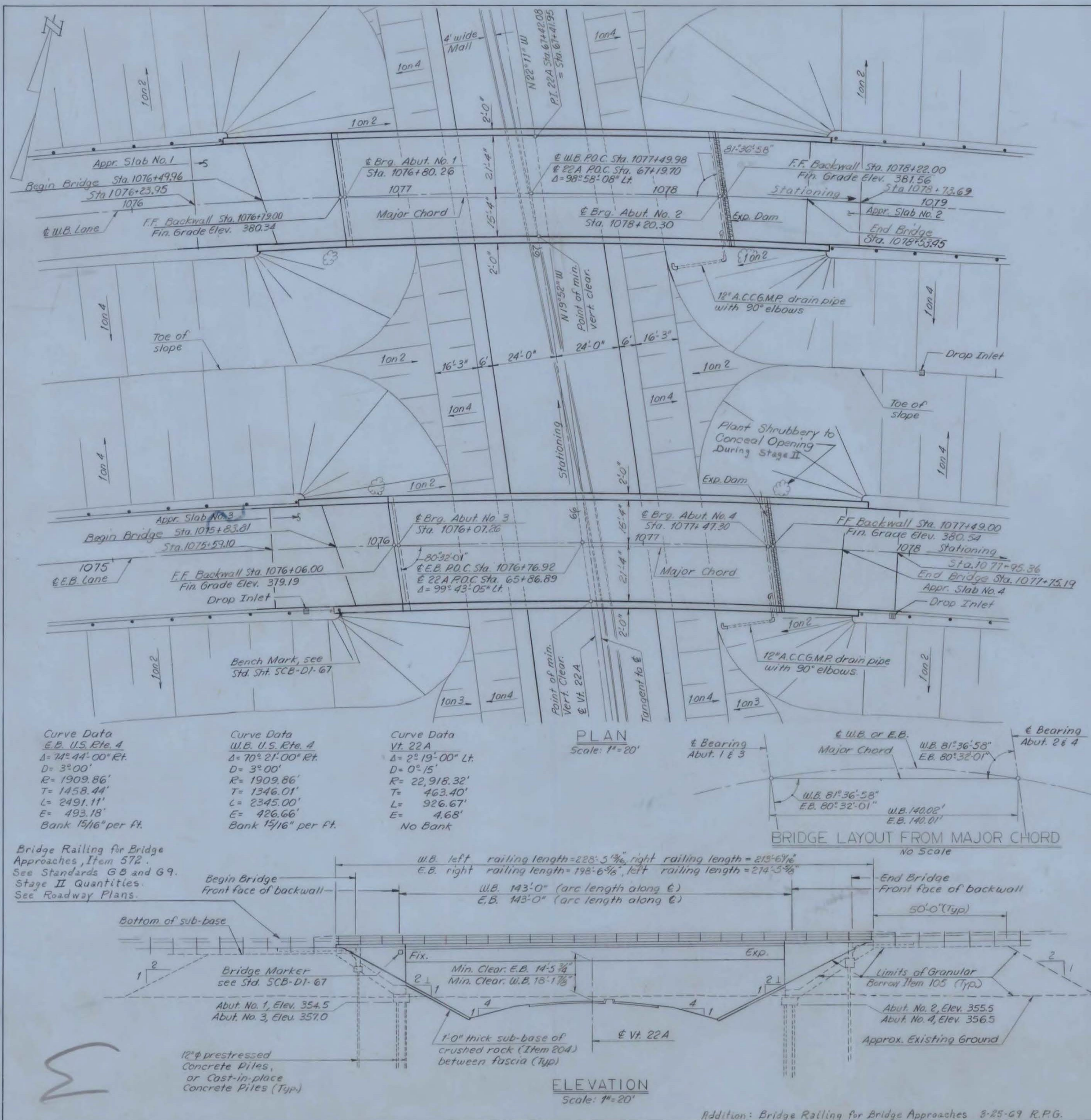
NOTE: PLACE JOINT SEALER, HOT POURED AT THE END OF APPROACH SLABS.

SAWED PAVEMENT JOINT DETAIL
(NOT TO SCALE)

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF APPROACH SLAB. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. ALL WORK SHALL BE PAID FOR UNDER ITEM 524.11, "JOINT SEALER, HOT POURED".

PROJECT NAME: FAIR HAVEN-WEST RUTLAND
PROJECT NUMBER: BF MEMB(35)

FILE NAME: z13b062-jnts.dgn	PLOT DATE: 12/3/2014
PROJECT LEADER: JPB	DRAWN BY: MWS
DESIGNED BY: SRB	CHECKED BY: JPB
PAVEMENT JOINT DETAIL	SHEET 11 OF 44

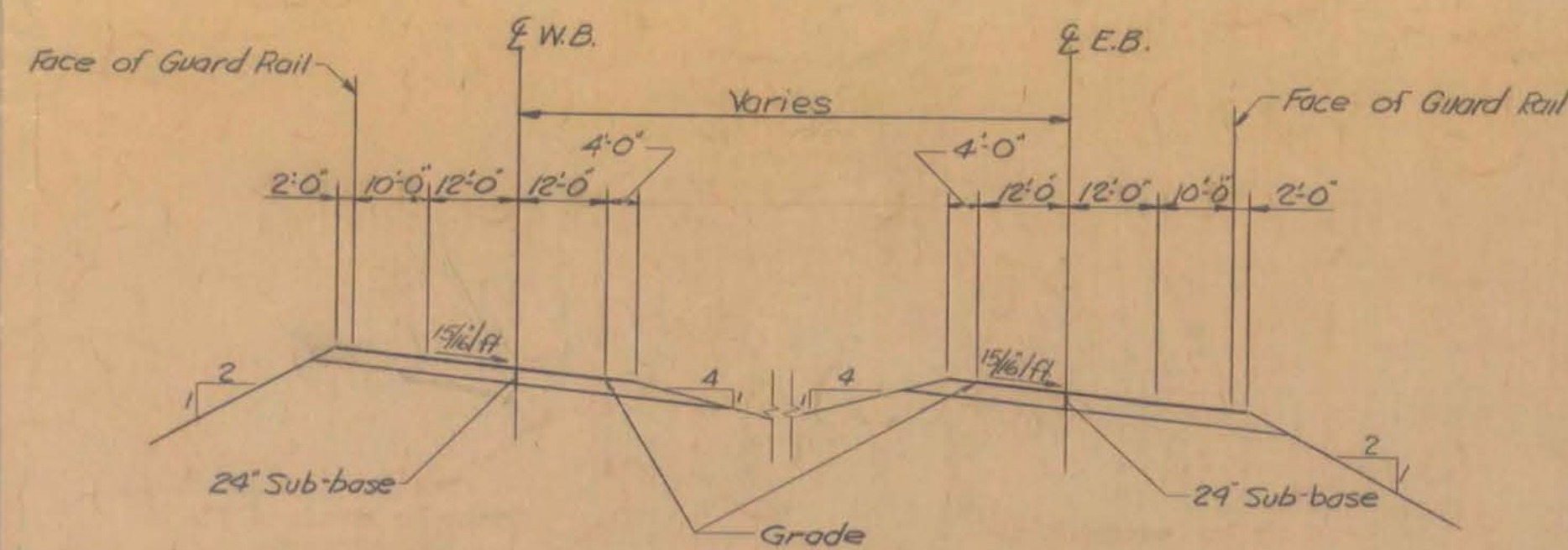


**FAIR HAVEN - WEST RUTLAND
 BF MEMB (35)
 SHEET 13 OF 44
 BRIDGE NOS. 5E AND 5W
 FOR REFERENCE ONLY**

U.S. RTE. 4 RELOCATION
 OVER VT. 22A RELOC.
PLAN AND ELEVATION

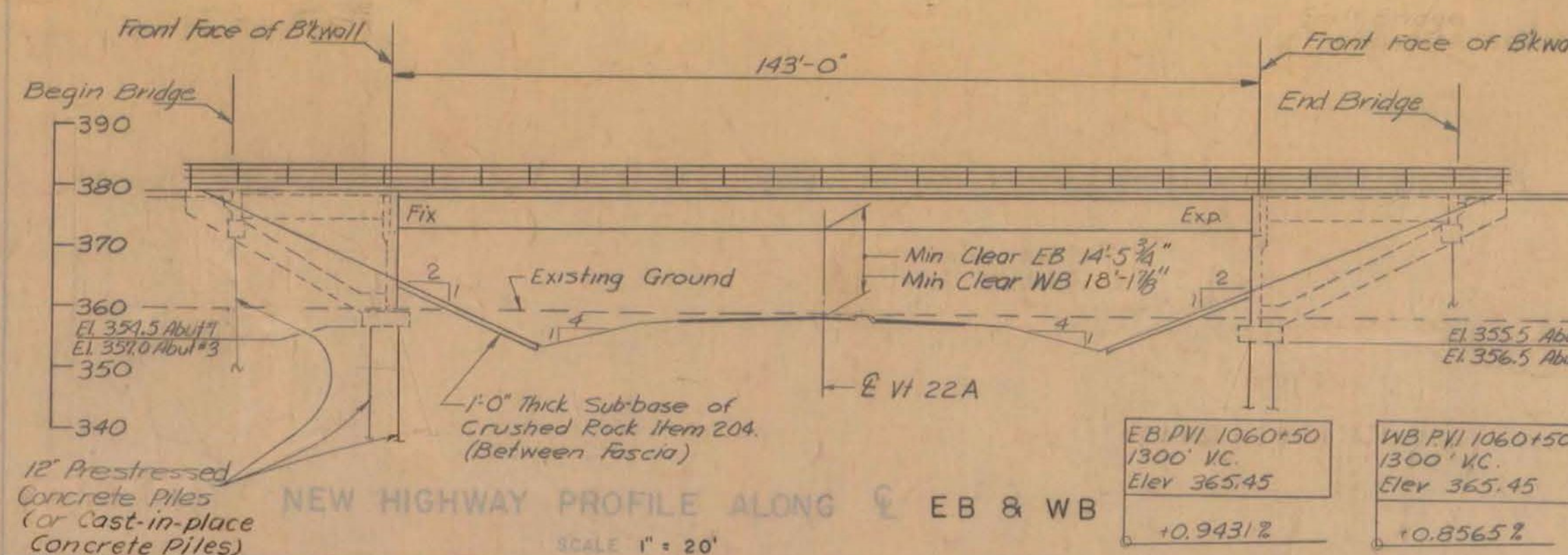
MCFARLAND-JOHNSON
 CONSULTING ENGINEERS
 BINGHAMTON, NEW YORK

DESIGNED BEK	CHECKED REG	DATE 5-23-68
DRAWN EMG	IN CHARGE HGC	SCALE As shown
PROJECT NO. F020 - 104(8)SH/80 JF532		
CONTRACT NO. BR 501 180 255		



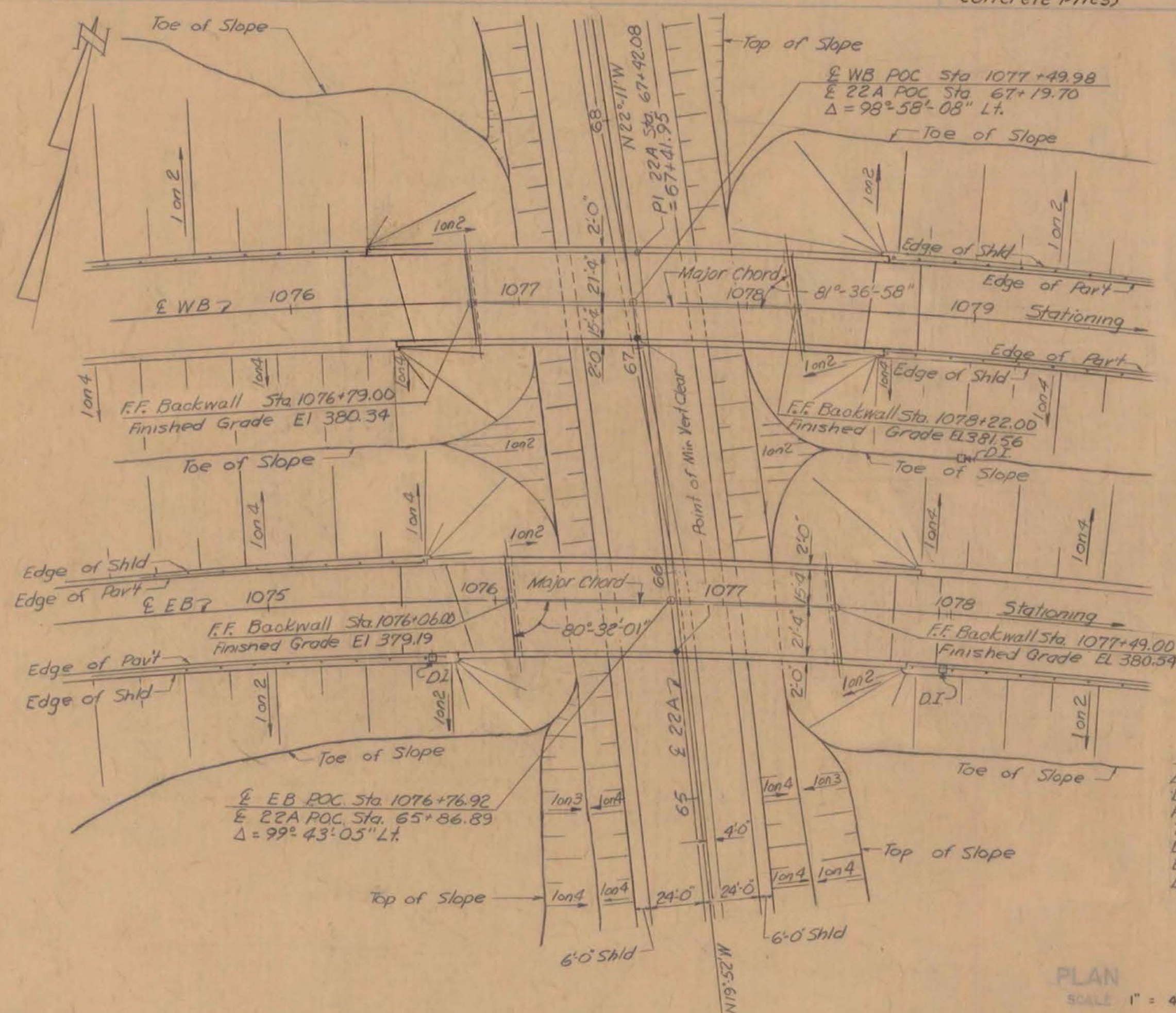
NEW HIGHWAY SECT. STA 1075+00 TO STA 1079+00

SCALE 1" = 20'

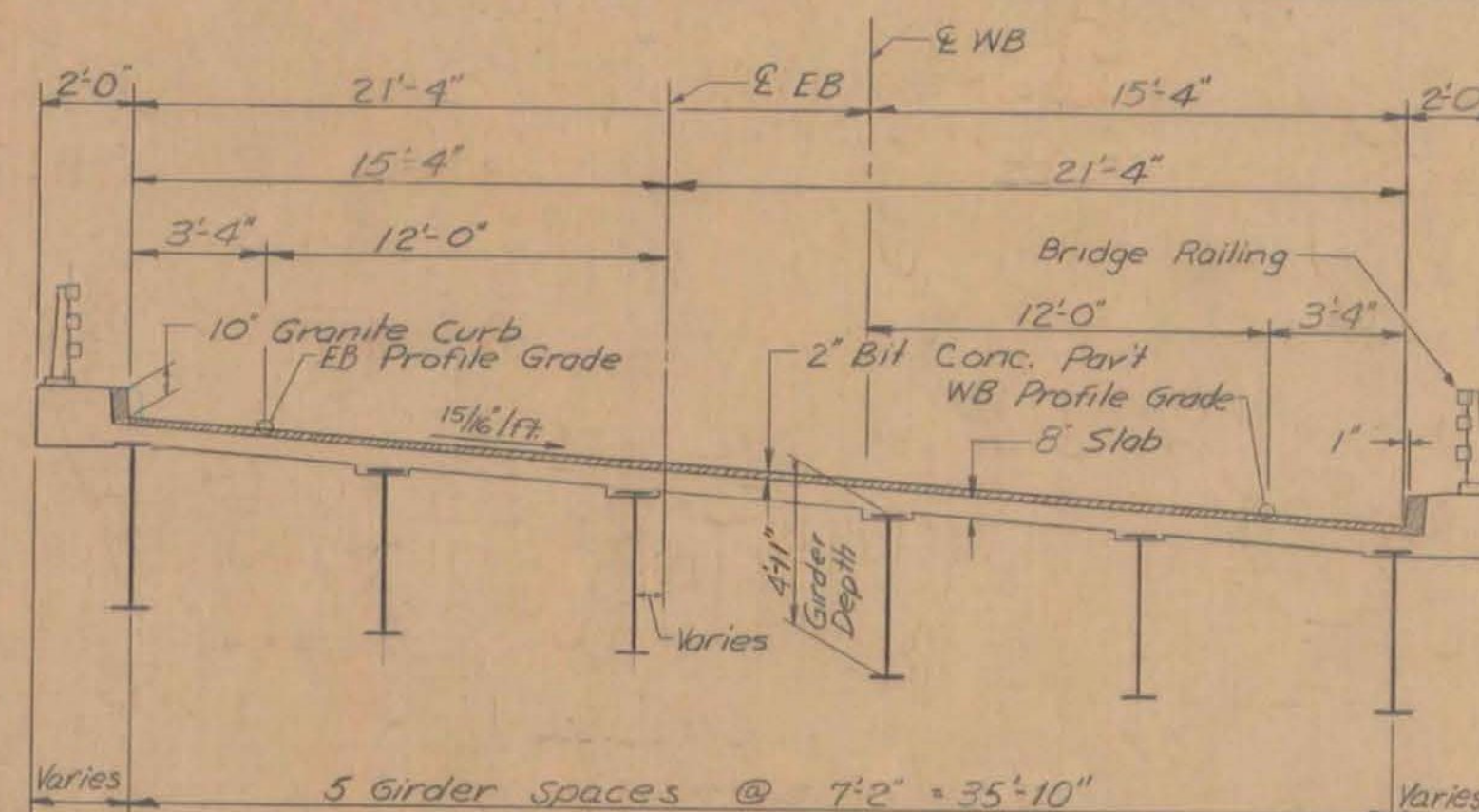


NEW HIGHWAY PROFILE ALONG EB & WB

SCALE 1" = 20'



PLAN
SCALE 1" = 40'



For Railing Details, see SB-R2-65 & SB-R1-64 (2 Sheets)

TYPICAL SECTION
SCALE 1" = 5'

CURVE DATA

EB US 4	WB US 4	VT 22A
Δ 74°-44'-00" Rt	Δ 70°-21'-00" Rt	Δ 2°-19'-00" Lt
D 3°-00'	D 3°-00'	D 0°-15'
R 1909.86	R 1909.86	R 22,918.32
T 1458.44	T 1346.01	T 463.40
L 2491.11	L 2345.00	L 926.67
E 493.18	E 426.66	E 4.68
Bank 1 1/2% per ft	Bank 1 1/2% per ft	No Bank

PVI Sta. 76+25
Elev. 359.17
VC = 850'

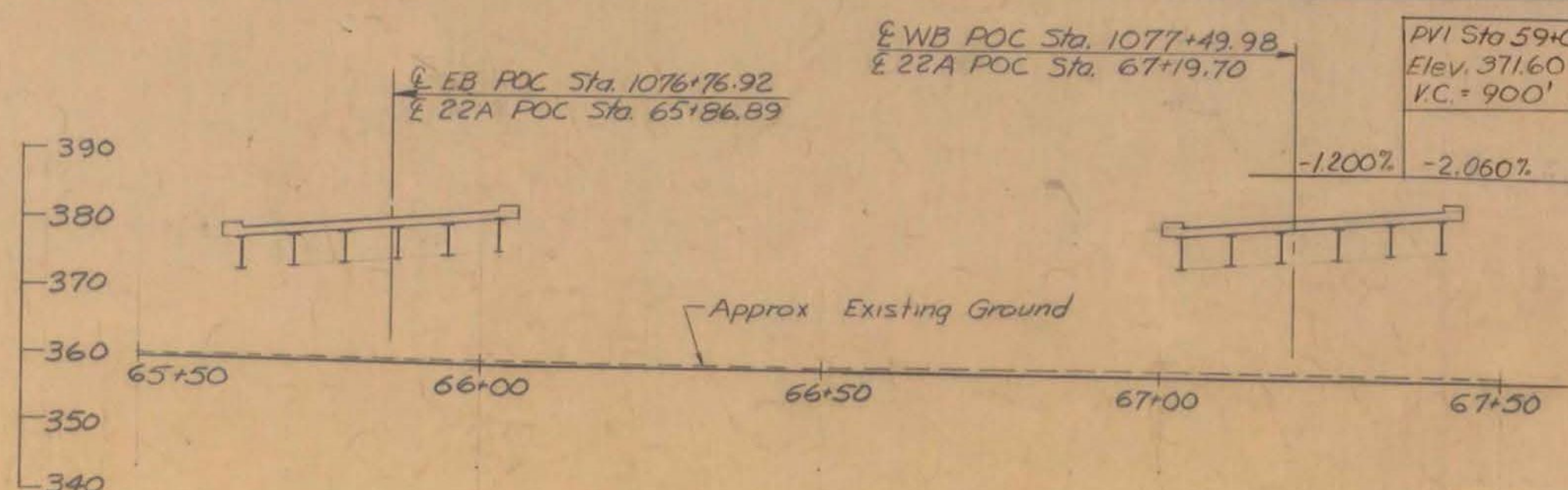
NOTES:

All materials and construction shall conform to the State of Vermont, Department of Highways, Standard Specifications for Highway and Bridge Construction dated April 1964 and the AASHTO Standard Specifications dated 1965, as modified by current Interim Specifications.

Structure designed for HS-20-44 loading modified for National System of Interstate Highways applied in accordance with the provisions of the AASHTO Standard Specifications Article 1.2.8.

Design Stresses

Concrete - f_c = 3000 psi - f_t = 1200 psi
Structural Steel - f_s = 20,000 psi (A36, other steels as per AASHTO Specifications)
Reinforcing Steel - f_s = 20,000 psi (tension)
 f_s = 16,000 psi (compression)



PROFILE OF PROPOSED VT 22A

SCALE 1" = 20'

HIGHWAY NO. U.S. 4 NAME OF HIGHWAY U.S. ROUTE 4
STRUCTURE NO. 5 COUNTY RUTLAND TOWN FAIR HAVEN
PROJECT NO. F02011(4) LOCATION U.S. ROUTE 4 RELOCATION OVER VERMONT 22A RELOCATION
0.4 MILE NORTH ALONG EXISTING 22A FROM ITS INTERSECTION WITH 4th STREET.

EXISTING STRUCTURE

1. RATED LOADING OF EXISTING STRUCTURE
2. TYPE OF EXISTING STRUCTURE
3. UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE? COST OF REMOVAL
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE?
6. SHOULD NEW TEMPORARY STRUCTURE BE BUILT?
7. ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE WATERWAY TO ORDINARY H.W.
8. EXTREME HIGH WATER AT EXISTING STRUCTURE WATERWAY TO EXTREME H.W.
9. SPAN OF EXISTING BRIDGE UPSTREAM WATERWAY TO EXTREME H.W.
10. SPAN OF EXISTING BRIDGE DOWNSTREAM WATERWAY TO EXTREME H.W.
11. TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS
12. DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE?
13. IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED?
14. ADDITIONAL WATERWAY AREA PROVIDED

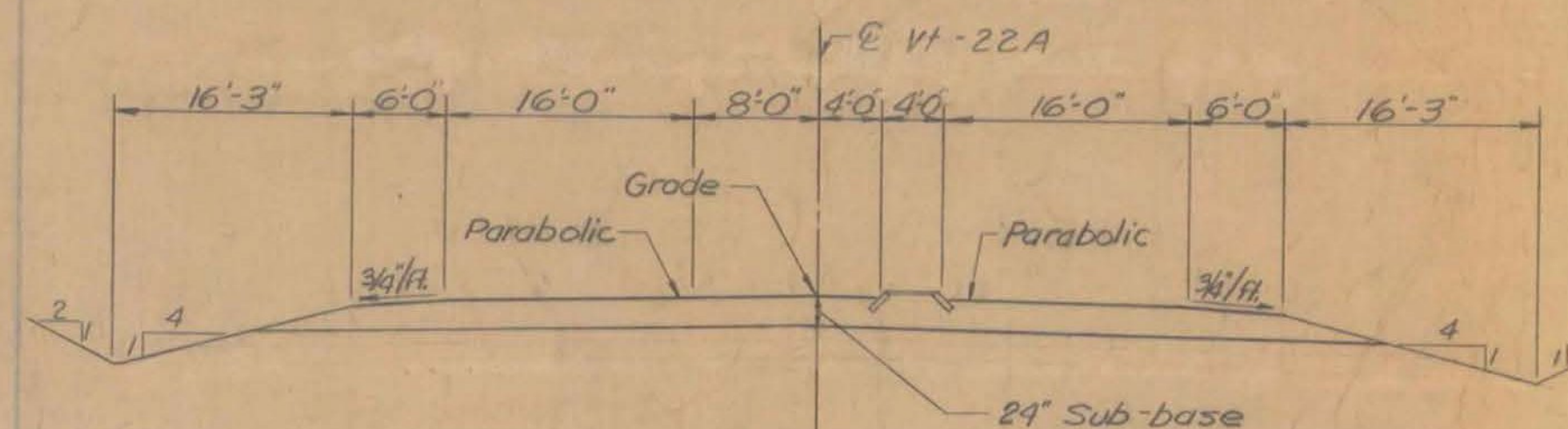
NEW STRUCTURE

1. RECOMMENDED TYPE OF STRUCTURE 2. SINGLE SPAN BRIDGES, WELDED PLATE GIRDERS - COMPOSITE
2. RECOMMENDED CLEAR SPAN OR SPANS 143'-0" EB, 143'-0" WB
3. MEASURED PARALLEL TO & NEW HIGHWAY
4. MEASURED AT RIGHT ANGLES TO & STREAM
5. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? ANSWER YES OR NO
6. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE
7. EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE SOURCE OF INFORMATION
8. ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?
9. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? IS ORDINARY RISE RAPID?
10. LOW WATER ELEVATION AT NEW STRUCTURE
11. DRAINAGE AREA IN ACRES ABOVE STRUCTURE CHARACTER OF TERRAIN
12. IS STREAM EVER DRY
13. VELOCITY OF STREAM AT HIGH WATER STAGE ESTIMATED DISCHARGE
14. AREA FULL OPENINGS AREA BELOW ORDINARY H.W.
15. CHARACTER OF SCOUR BRIFT ICE
16. ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE
17. VERTICAL CLEARANCE ABOVE FLOOD ELEVATION
18. ARE SIDEWALKS REQUIRED? IF SO ON WHAT SIDE? NO BOTH SIDES CONCRETE
19. RECOMMENDED TYPE OF PAVEMENT 2" BITUMINOUS CONCRETE 8" CONCRETE
20. TRAFFIC TO BE MAINTAINED UNDER ITEM NO. ONE OR TWO WAYS PROBABLE CONT.
21. PROBABLE COST OF CLEARING AND DRUBBING STREAM CHANNEL AT STRUCTURE SITE
22. SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? NO
23. ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 40 T/PILE SHOULD PILES BE USED? YES SEE BELOW

FOUNDATION INFORMATION

OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.

ESTIMATED PILE LENGTH ABUTMENT # 1 - 165', ABUTMENT # 2 - 160'
ABUTMENT # 3 - 140' TO 160', ABUTMENT # 4 - 185'



NOTE:
For location of 4' mail see
VT 22A alignment data sheet.

TYPICAL
STATION

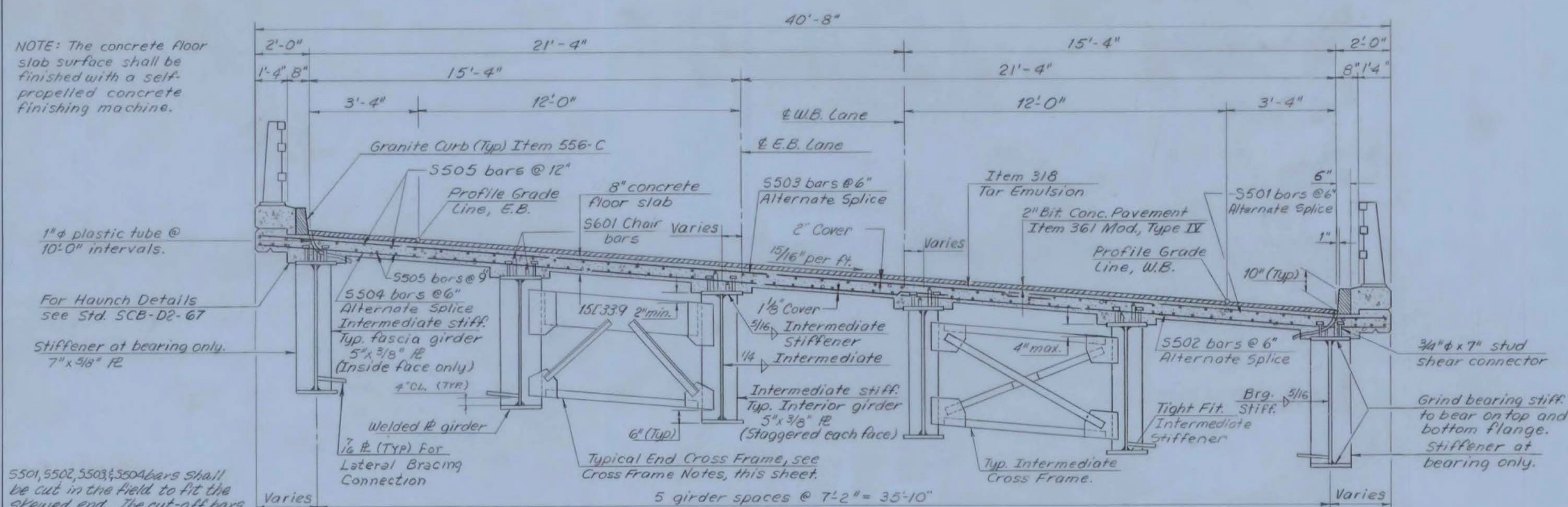
**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 14 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY**

RECOMMENDED FOR APPROVAL
CONSTRUCTION ENGINEER
DATE 9/28/67
9/27/67
9/23/67
9/28/67

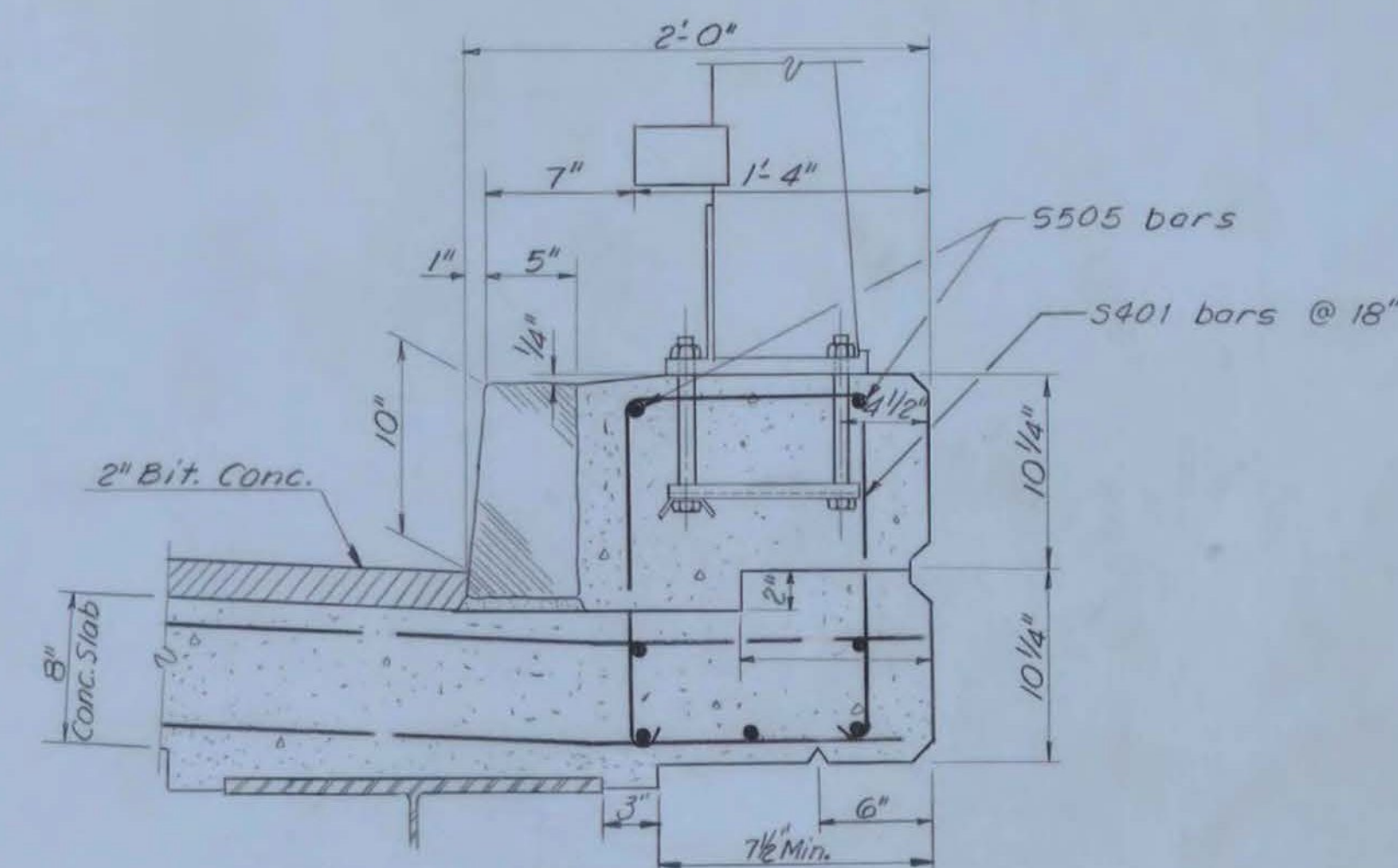
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
U.S. ROUTE 4 IN THE TOWNS OF
FAIR HAVEN
ROUTE NO. 4 WB 1077+50
US RTE 4 RELOC OVER VT 22A RELOC
WB 1076+77
MCFARLAND-JOHNSON
CONSULTING ENGINEERS
PROJECT NO. F02011(4) SHEET 182 OF 255

Revisions
Bridge Width JHT 11/30/67
Abutment Details & Approach Slab Location JHT 11/30/67
Major Chord Angles
22A Profile, Gdn. Spd. & Abut. Layout
182 - 255
2-19-68
BRK 5-17-68

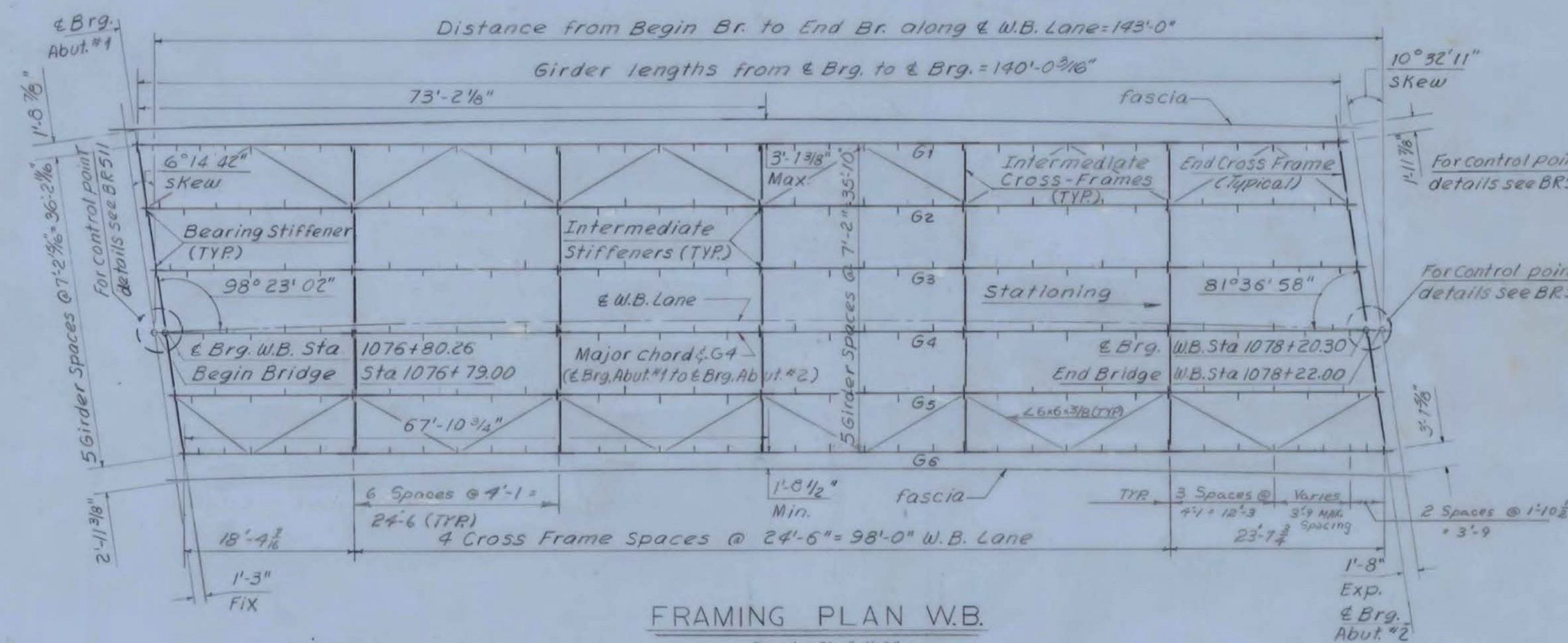
NOTE: The concrete floor slab surface shall be finished with a self-propelled concrete finishing machine.



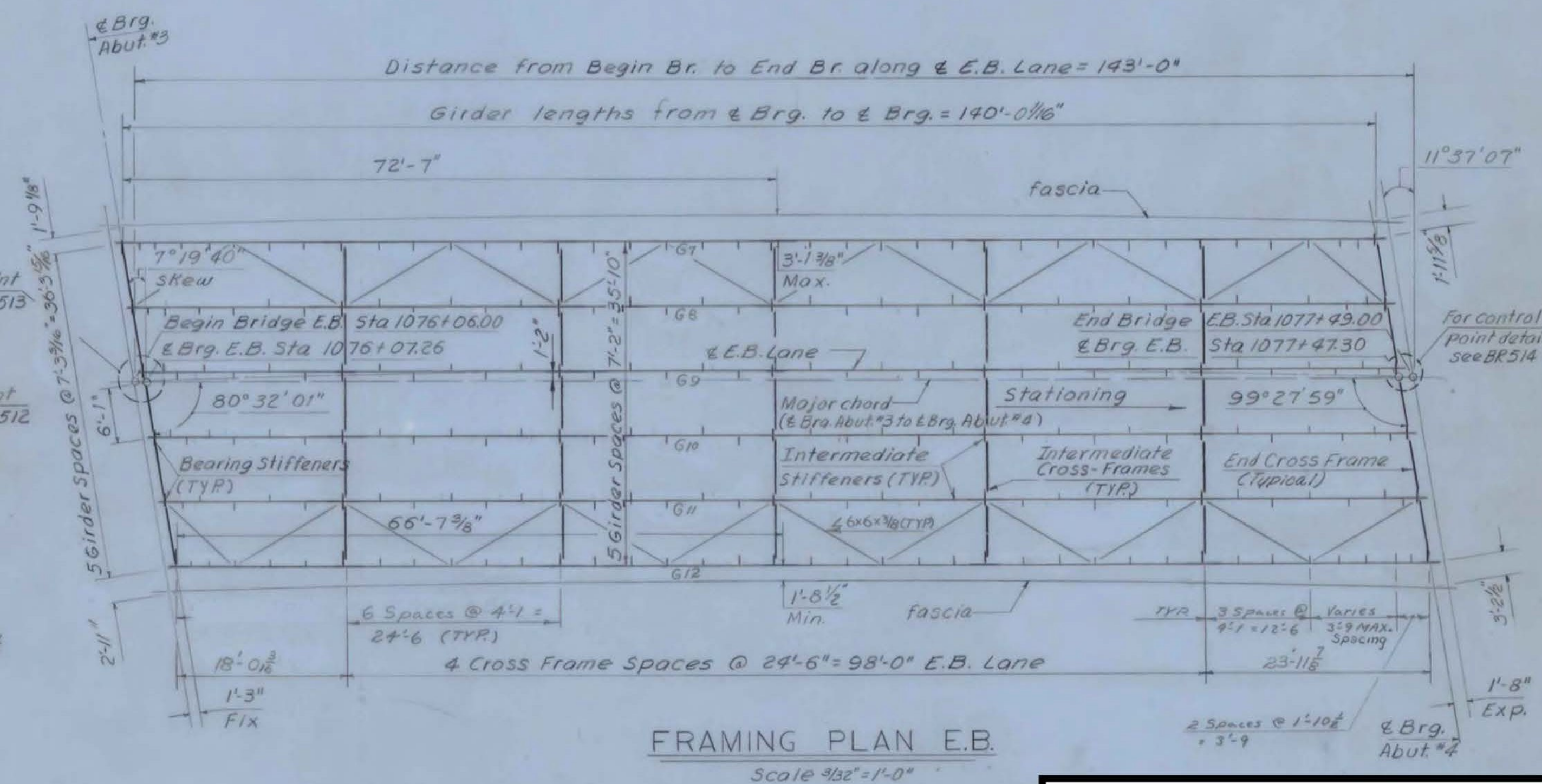
TYPICAL SECTION
Scale: 3/8" = 1'-0"



TYPICAL CURB SECTION
Scale: 1 1/2" = 1'-0"



FRAMING PLAN W.B.
Scale: 1/32" = 1'-0"



FRAMING PLAN E.B.
Scale: 1/32" = 1'-0"

REVISIONS (5-15-69)
R.S.H.

- 1) CHANGE STIFFENER SPACING
- 2) ADD LATERAL BRACING
- 3) ELIMINATE GIRDER SPLICE

REVISIONS (6-23-69)
R.D.H.

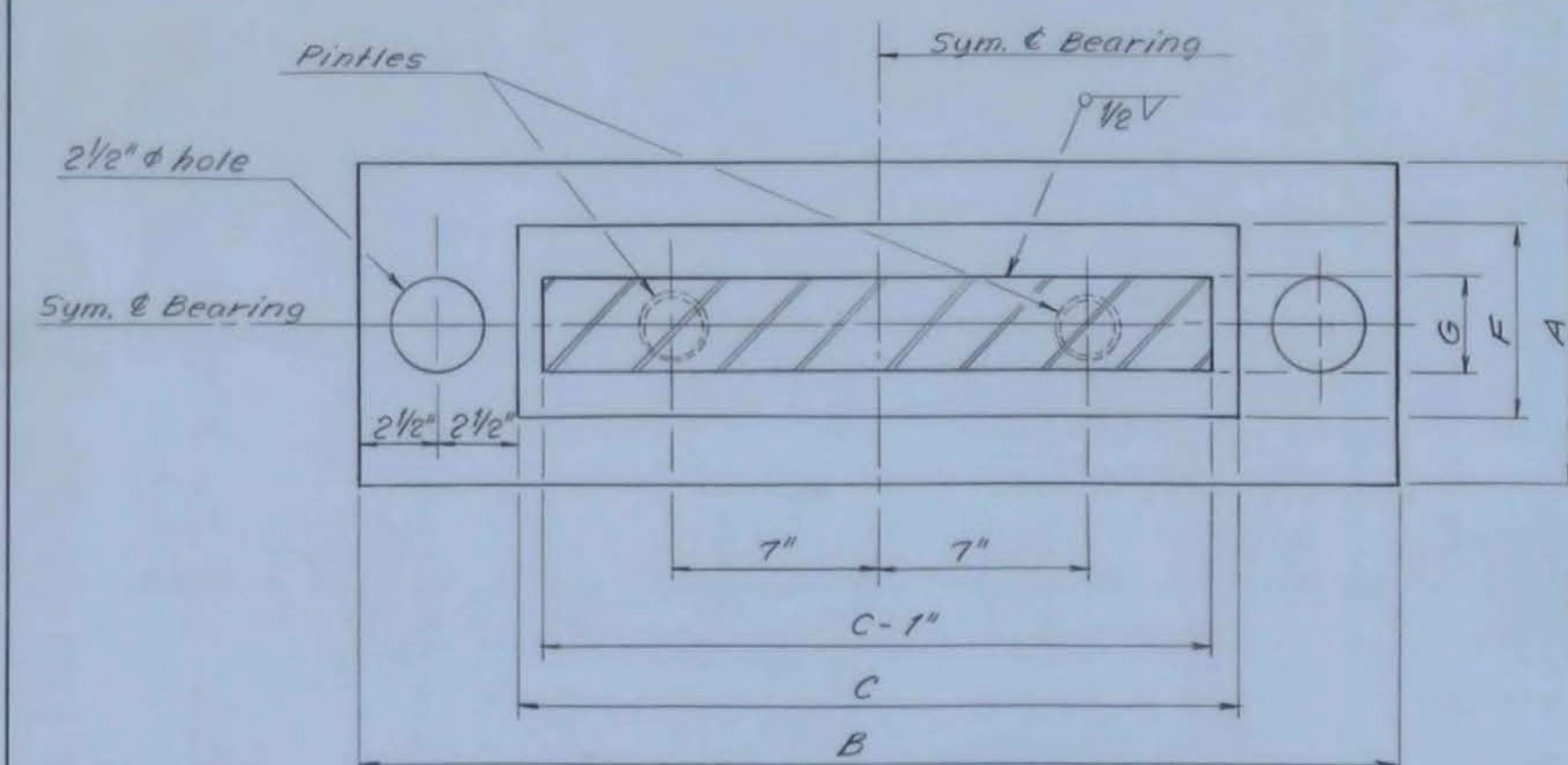
- 1) CHANGE LATERAL BRACING FROM $\angle 5 \times 5 \times 3/16$ TO $\angle 6 \times 6 \times 3/8$.

NOTES

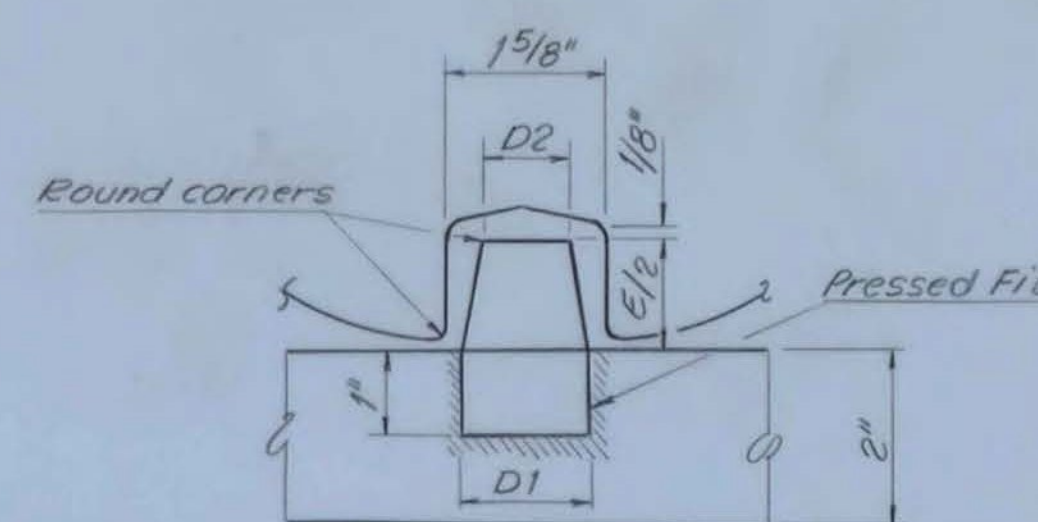
1. For General Notes, see BR 501
2. For Joint Details, see BR 510.
3. For Beam Haunch Details, see SCB-D2-67.
4. All studs are to be $3/4" \times 7"$ welded studs. If $7/8"$ studs are used, increase the spacing shown for $3/4"$ studs by 50%, see detail BR 508.
5. Cross Frame Notes: All gusset & connection plates shall be $7/16"$ plates. Cross Frame angles shall be $4 \times 4 \times 3/8$ is.
6. All shop connections for Cross Frames and Lateral Bracing shall be $3/16"$ fillet welds. All field connections shall be $3/4"$ high strength bolts meeting the requirements of ASTM A 325.
7. All Girders are parallel to the major chord.
8. Cross Frames shall be bolted to stiffeners.

FAIR HAVEN - WEST RUTLAND
BF ME (35)
SHEET 15 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY

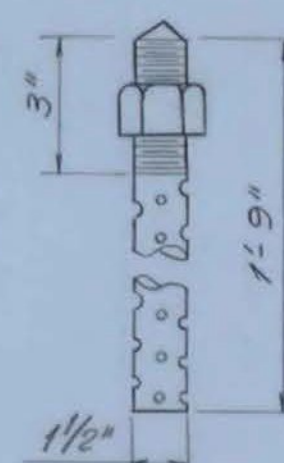
SUPERSTRUCTURE DETAILS			
McFARLAND-JOHNSON CONSULTING ENGINEERS BINGHAMTON, NEW YORK			
DESIGNED M.L.P.	CHECKED E.E.C.	DATE 5-23-68	
DRAWN R.M.G.	IN CHARGE H.G.C.	SCALE AS SHOWN	
PROJECT NO. F020-10	(8) SH 186 OF 222		
CONTRACT NO.	BR 507	183	255



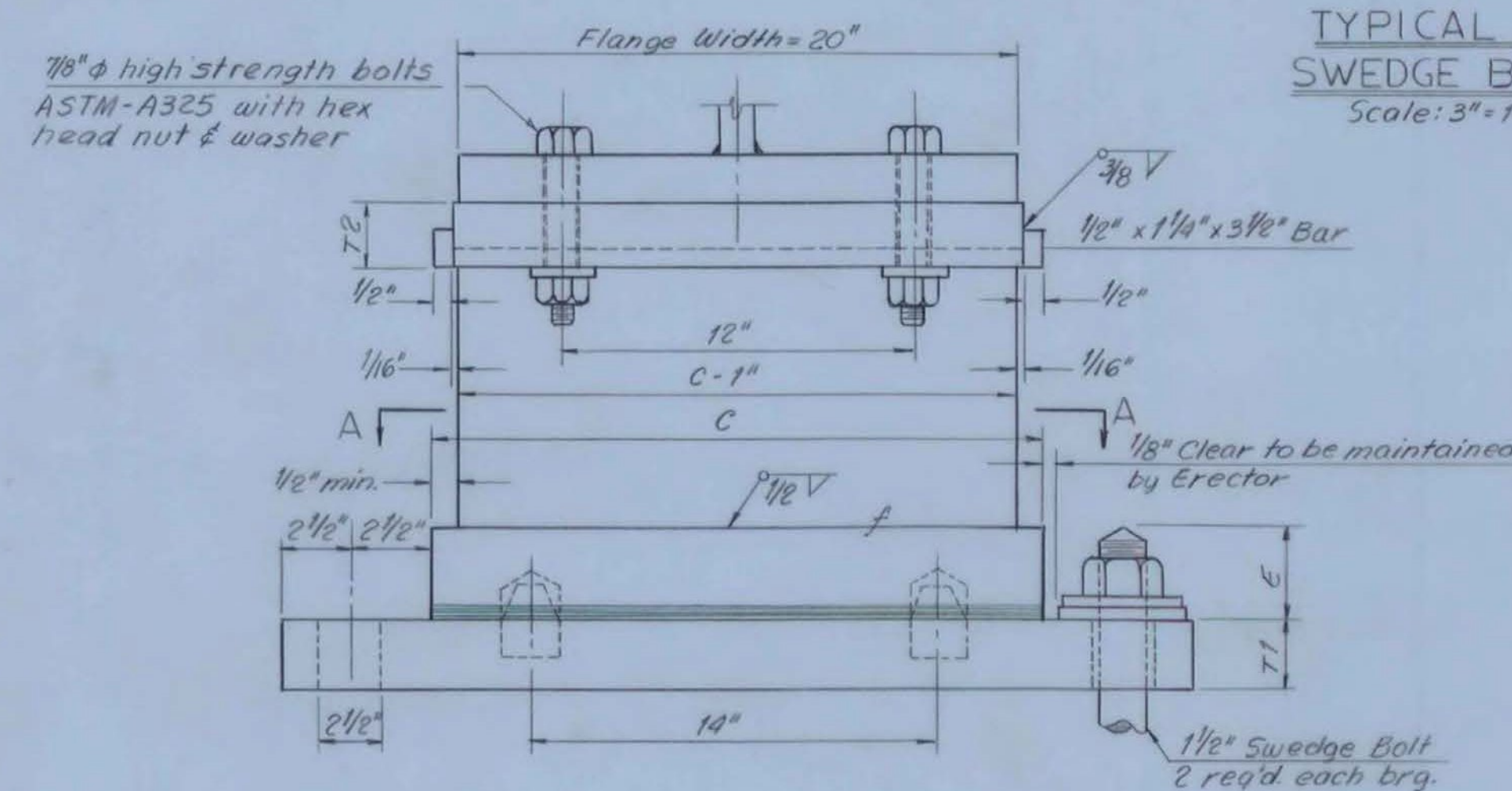
SECTION A-A
No Scale



PINTLE DETAIL
No Scale

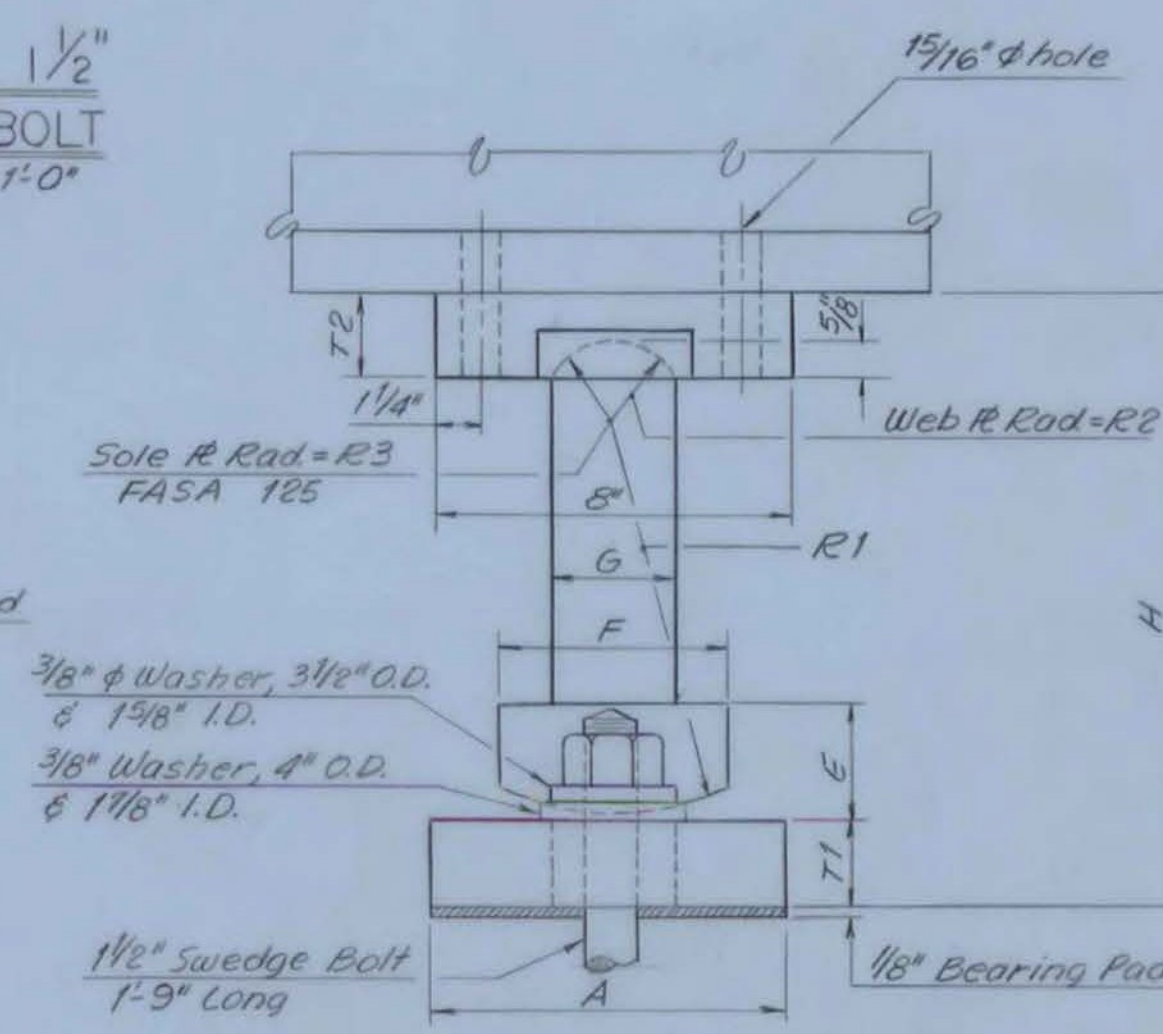


TYPICAL 1/2"
SWEDGE BOLT
Scale: 3/4"=1'-0"

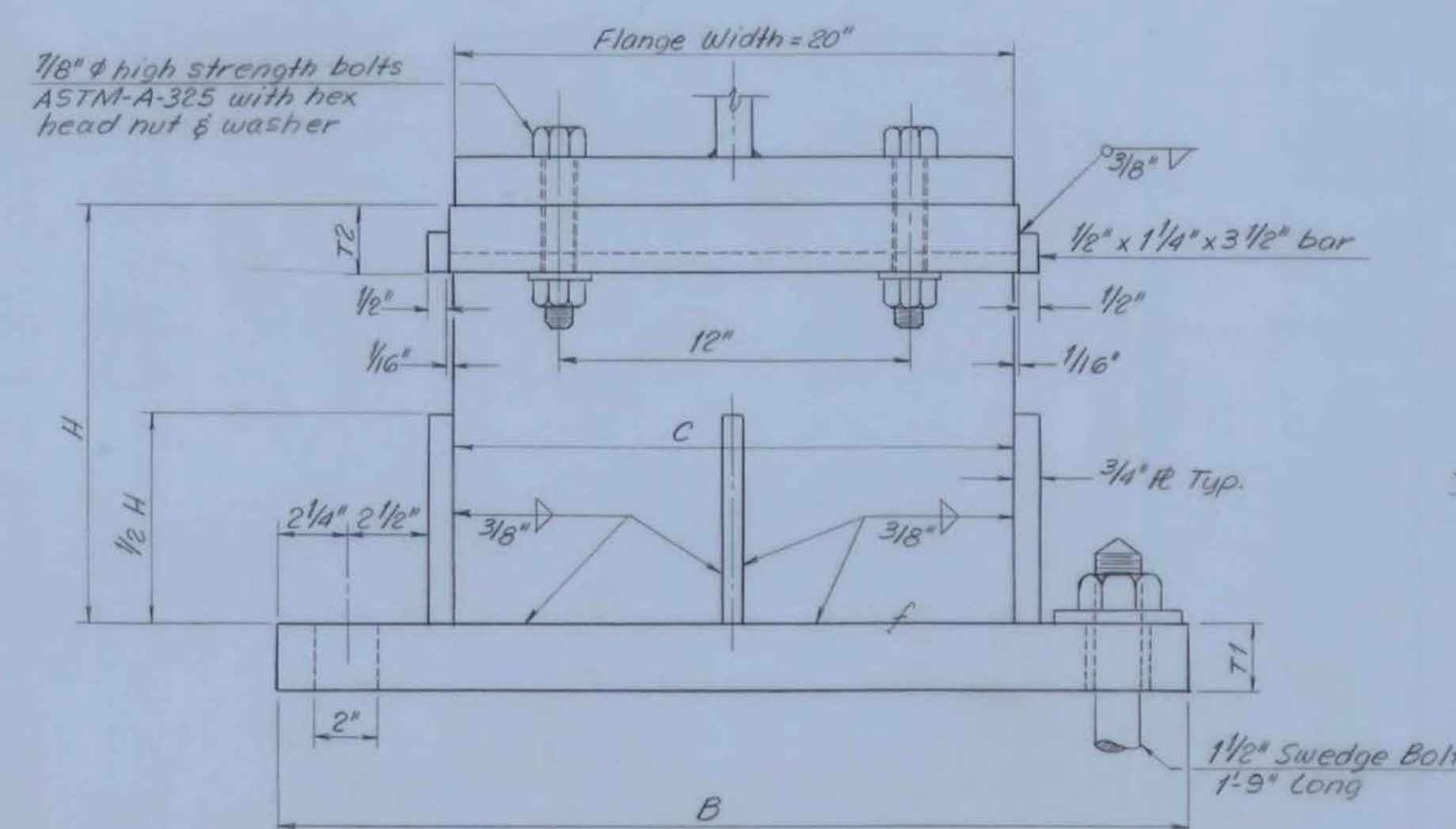


ELEVATION
No Scale

EXPANSION DEVICE

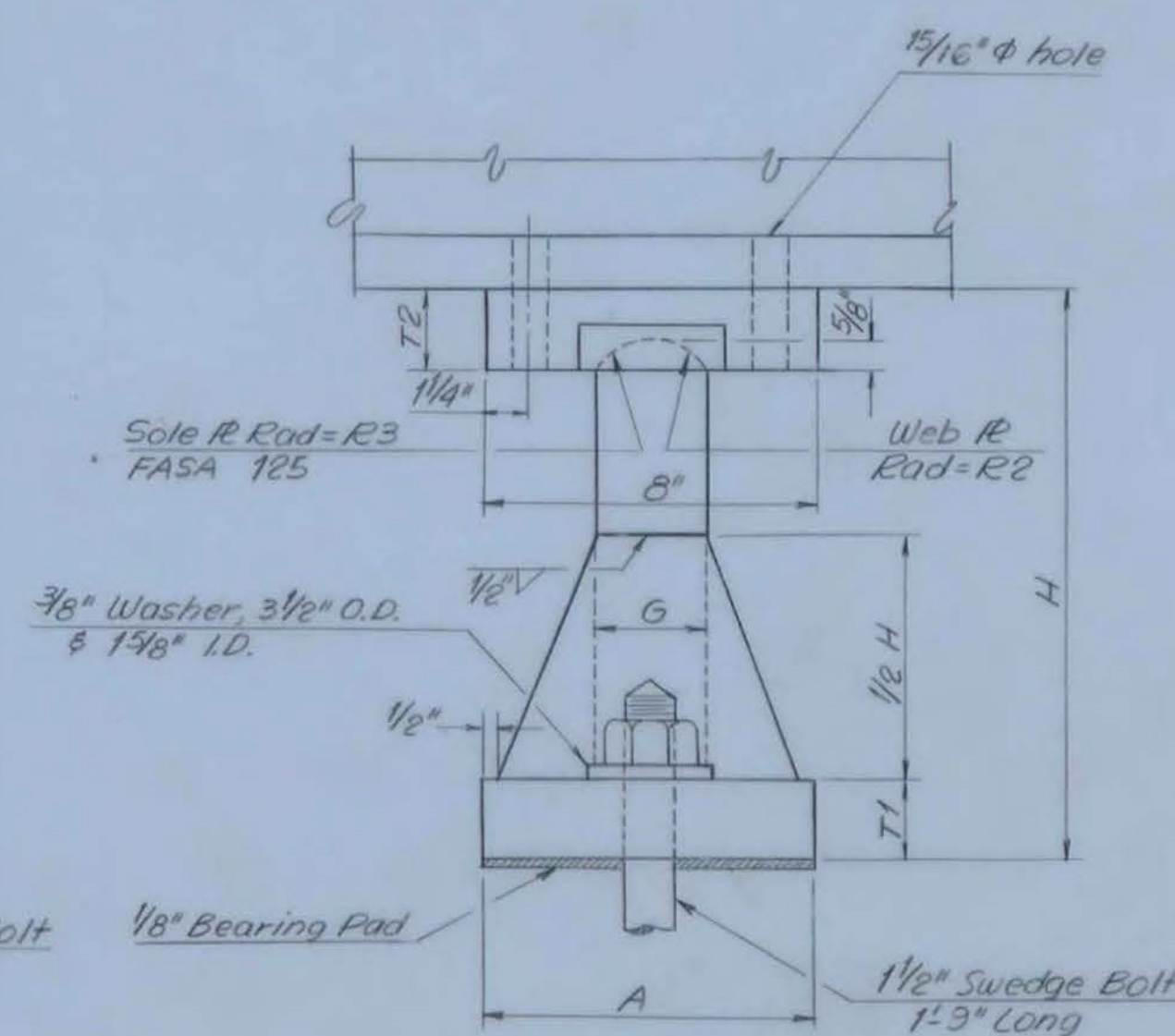


SIDE VIEW
No Scale

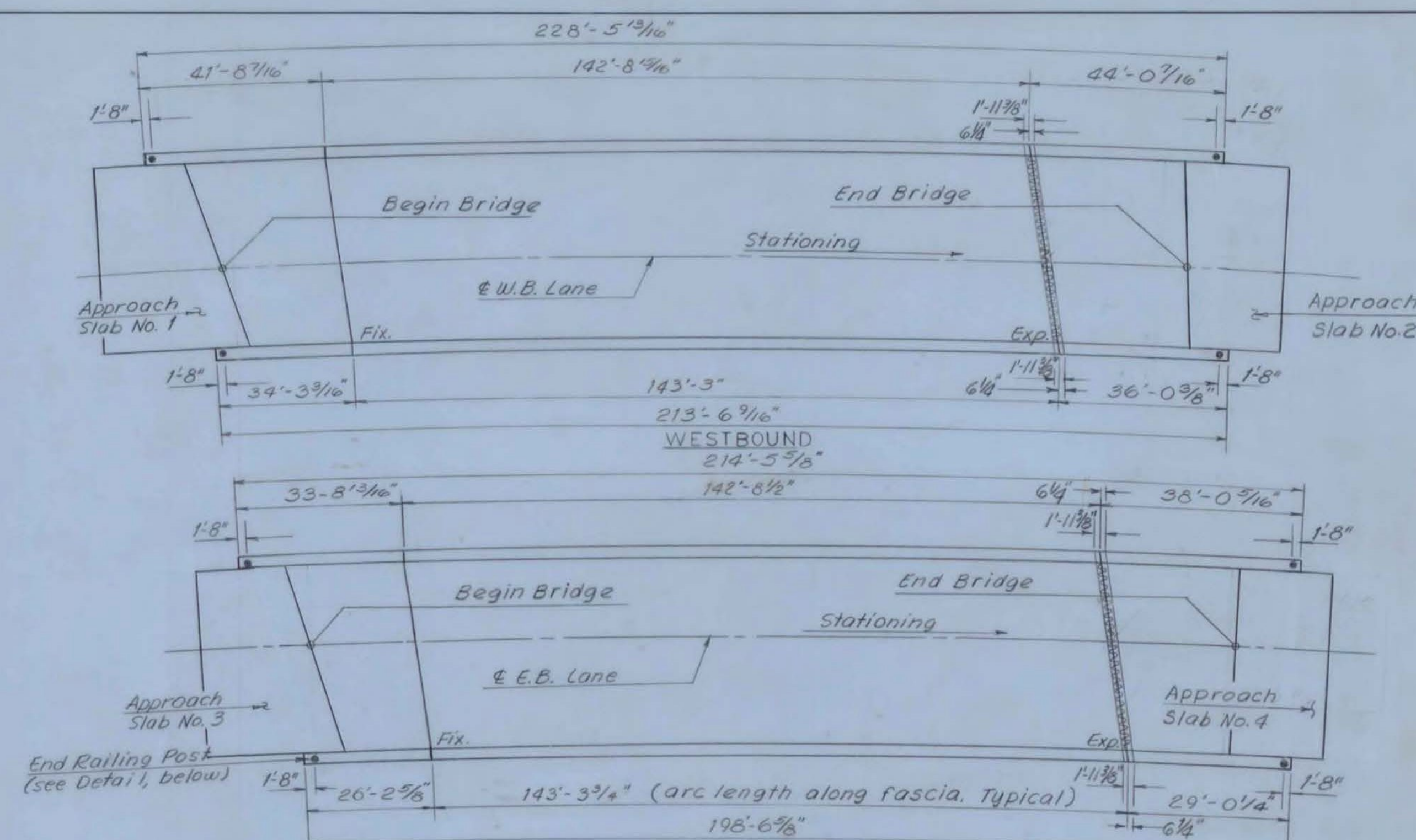


ELEVATION
No Scale

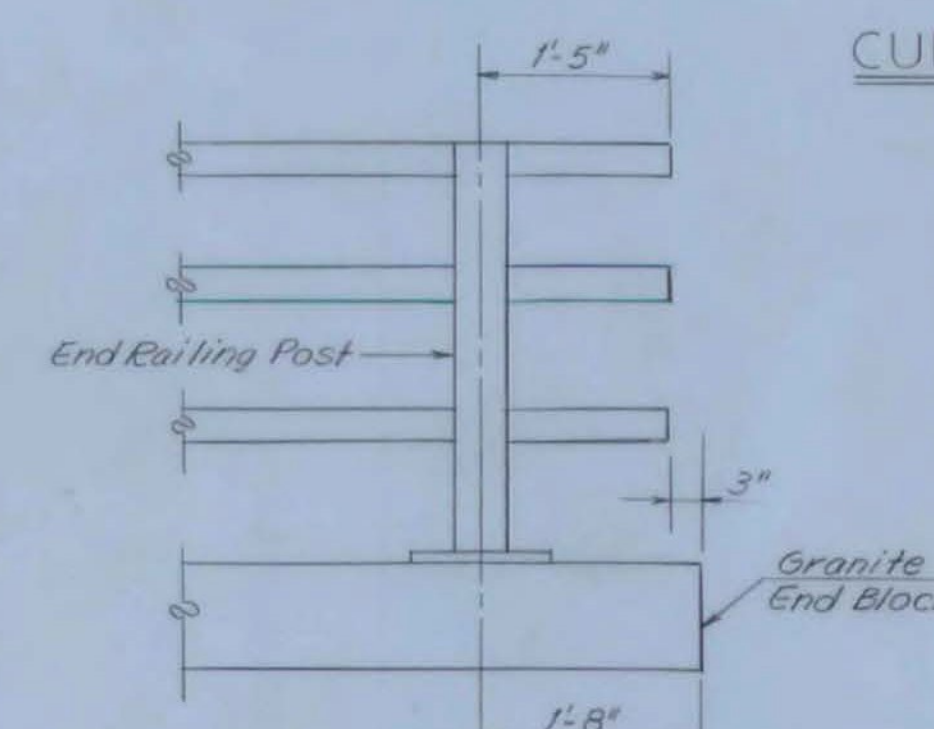
FIXED DEVICE



SIDE VIEW
No Scale



CURB AND RAILING PLAN
No Scale



END RAILING POST DETAIL
Scale: 3/4"=1'-0"

CURB AND RAILING NOTES

- For details of granite bridge curb, see BR 507.
- For details of bridge railing, see Std. Sh. SB-R1-64 and SB-R2-65.
- The ends of the granite curb shall be sawed square against the expansion plate and where Item 37E-C is to be used.
- Straight sections of curb shall be in random lengths of 4 to 10 feet.
- Detailed drawings for the layout of the granite curb (Item 556-C) shall be submitted in triplicate to the State for approval prior to fabrication or shipment.
- Provide for 2" movement in the rail panel over the roadway expansion joint.

DIMENSIONS (INCHES)

Location	Fixed or Expansion	Max. Reaction (K)	A	B	C	D1	D2	E	F	G	T1	T2	R1	R2	R3	H
Abut. No. 1	Fix.	167.62	8	31	20	—	—	—	—	2 1/2	2	2	—	1 3/8	1 1/16	11 3/4
Abut. No. 2	Exp.	167.62	8	31	21	1 1/2	1	2	5	2 1/2	2	2	7	1 3/8	1 1/16	11 3/4
Abut. No. 3	Fix.	167.62	8	31	20	—	—	—	—	2 1/2	2	2	—	1 3/8	1 1/16	11 3/4
Abut. No. 4	Exp.	167.62	8	31	21	1 1/2	1	2	5	2 1/2	2	2	7	1 3/8	1 1/16	11 3/4

BEARING NOTES

- For General Notes, see BR 501.
- All steel other than bolts, nuts and washers to be ASTM-A36 Steel. 7/8" high strength bolts to be ASTM-A325.
- All bearing pads are to meet AASHTO Specifications 2.10.3. (K) (1/8" thick). Prior to placing pads, each bearing area shall be inspected by the Engineer to assure a flat and smooth masonry contact surface. Any irregularity exceeding 1/16" shall be corrected, and if necessary, the whole bearing area shall be ground to obtain full bearing.
- Rockers are to be set vertical @ 45°F. Allowable tolerance equals 1/16" in height of rocker.
- Contact surfaces of rockers are to be given a shop coat of white lead and tallow. Pintle holes are to be filled with graphite at the time of placement. The remainder of the bearing device will be given three (3) coats of paint in accordance with Vermont Specifications, Section 404.03, and Section 404.05 B.
- All welding shall conform to the current specifications for Welded Highway and Railway Bridges of the American Welding Society.

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 16 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY

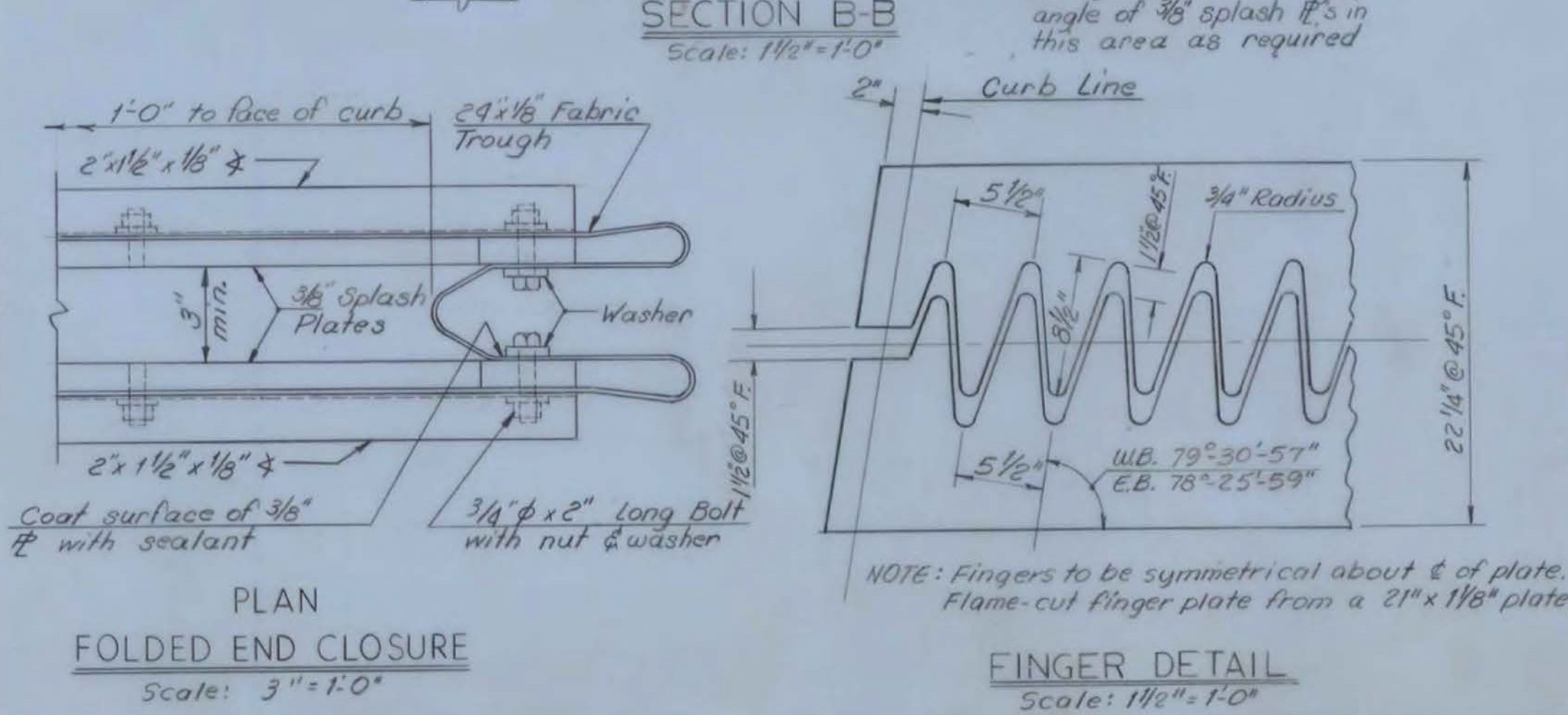
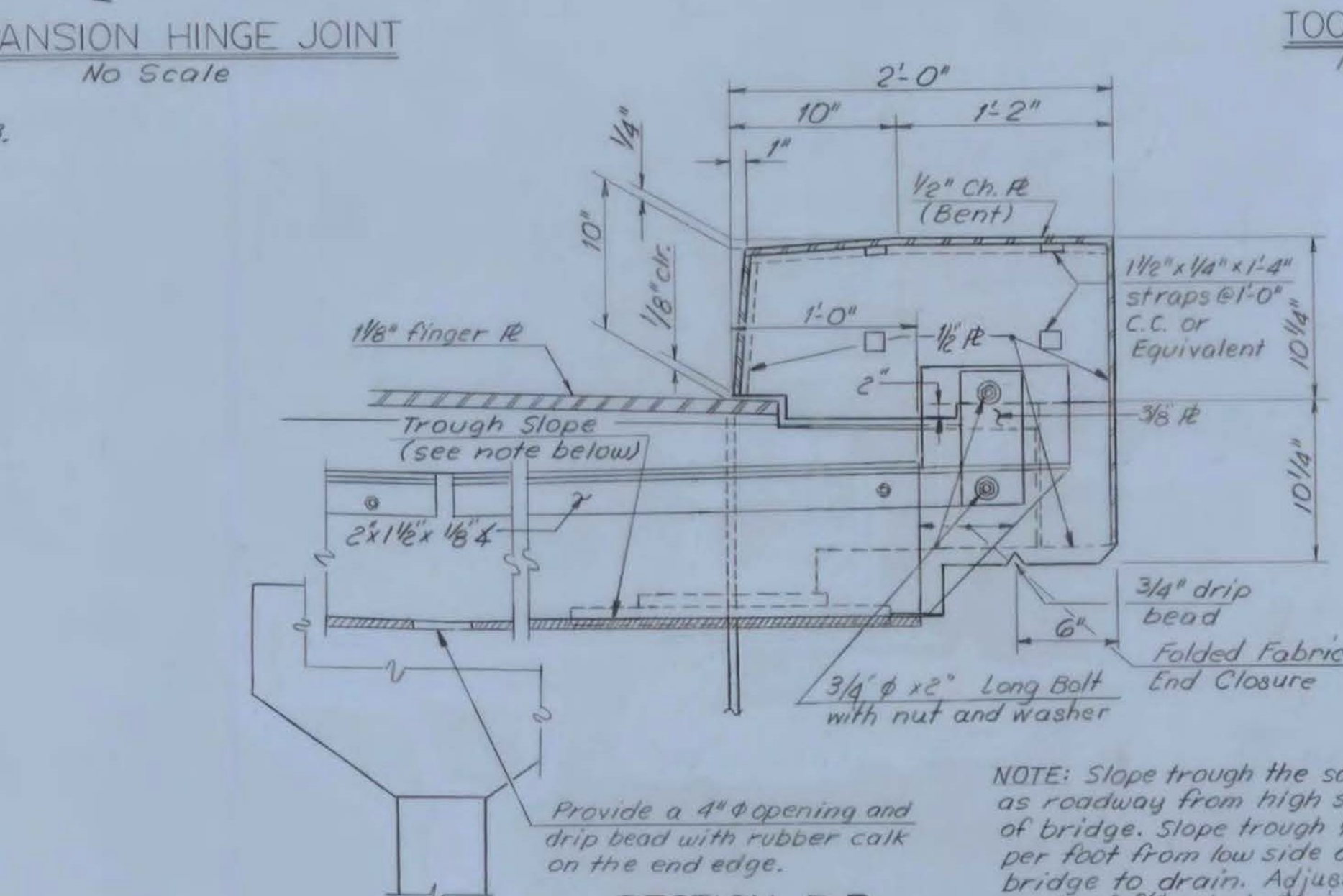
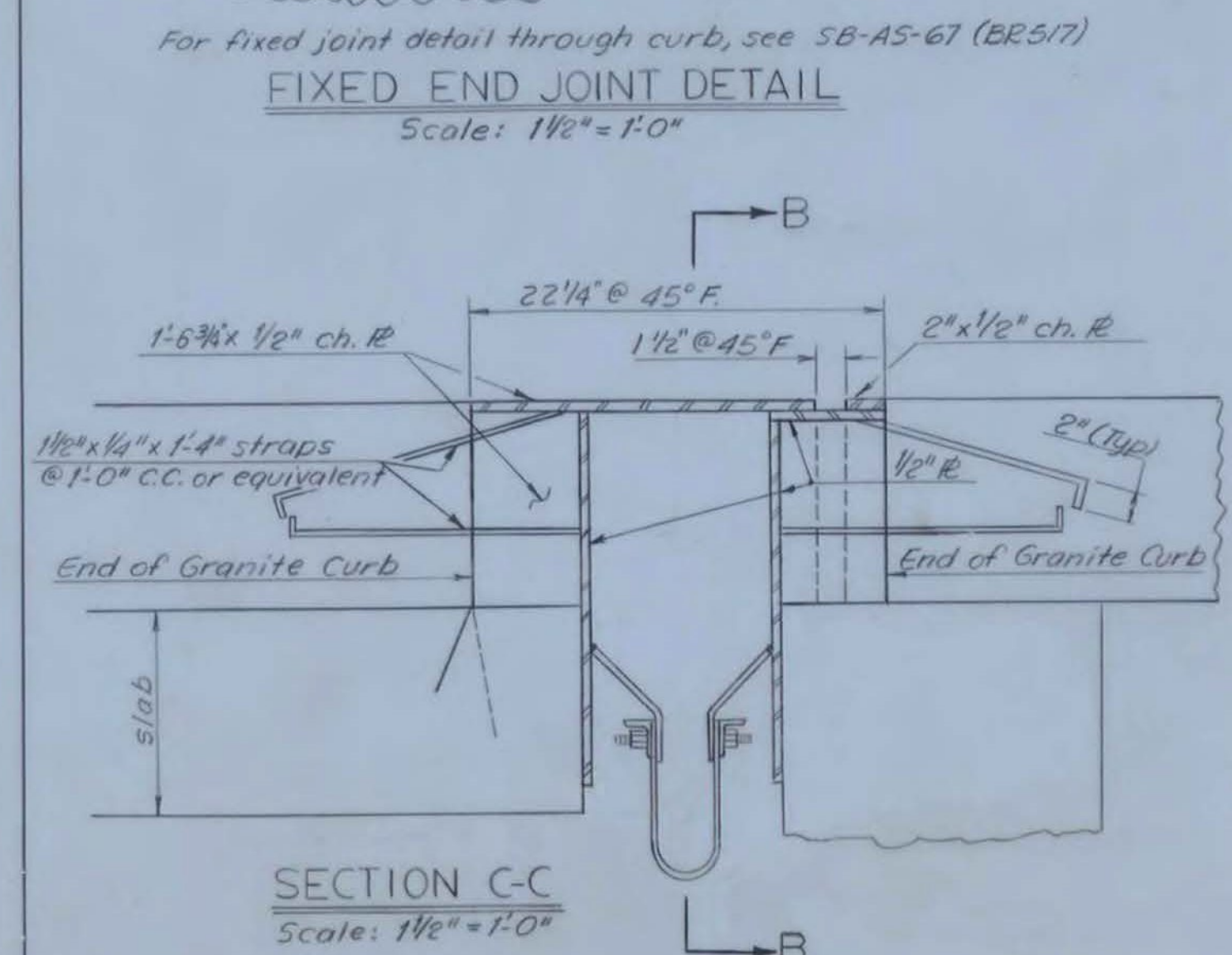
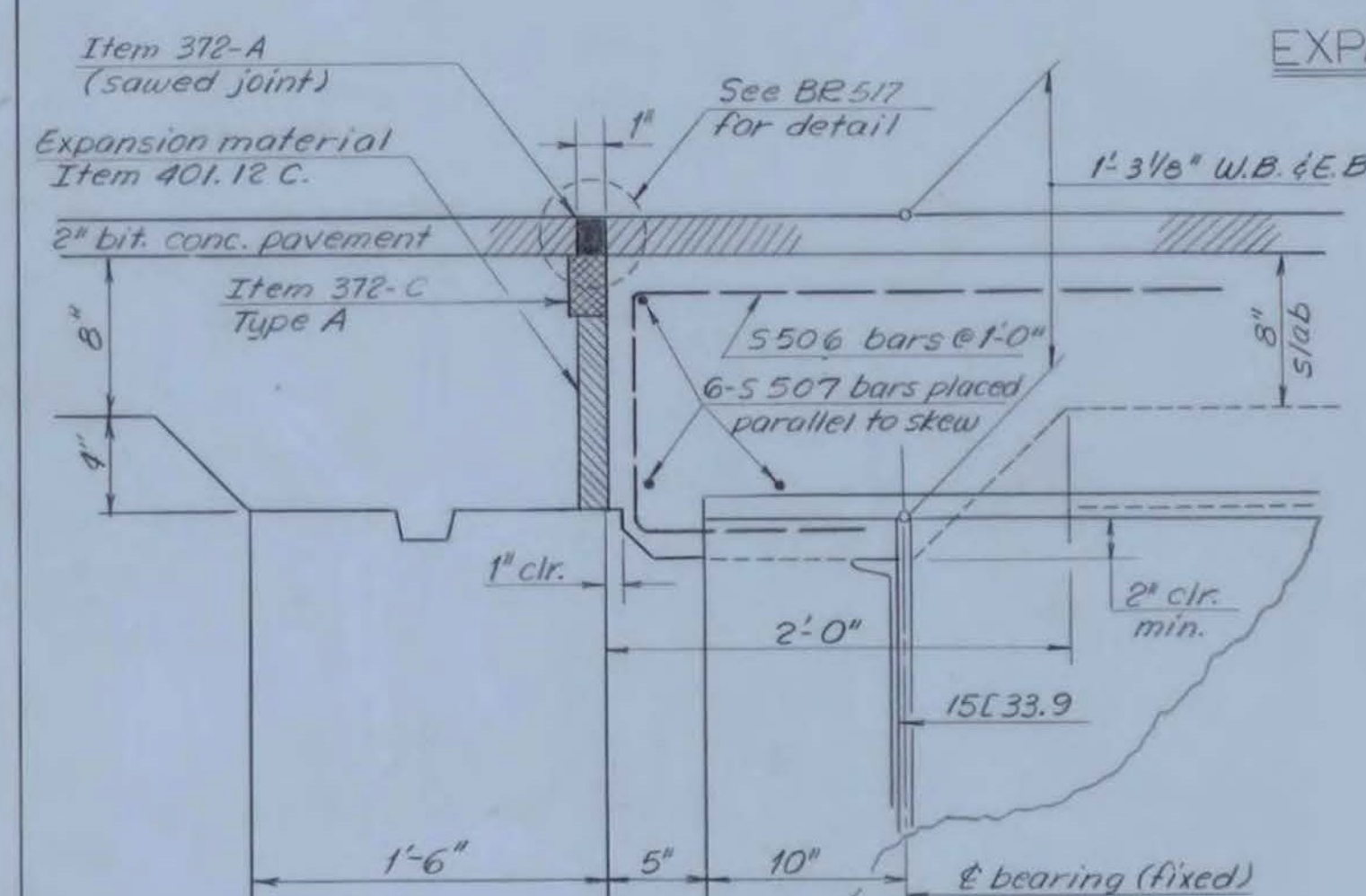
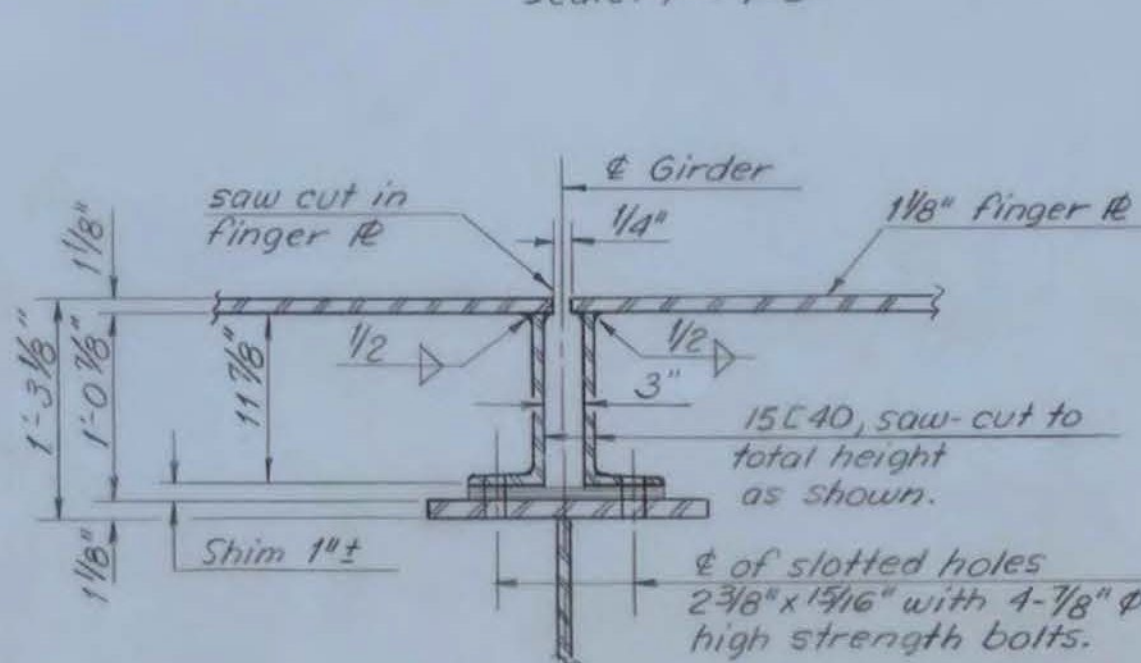
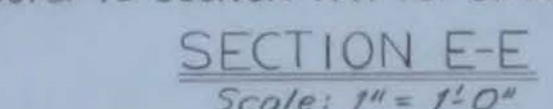
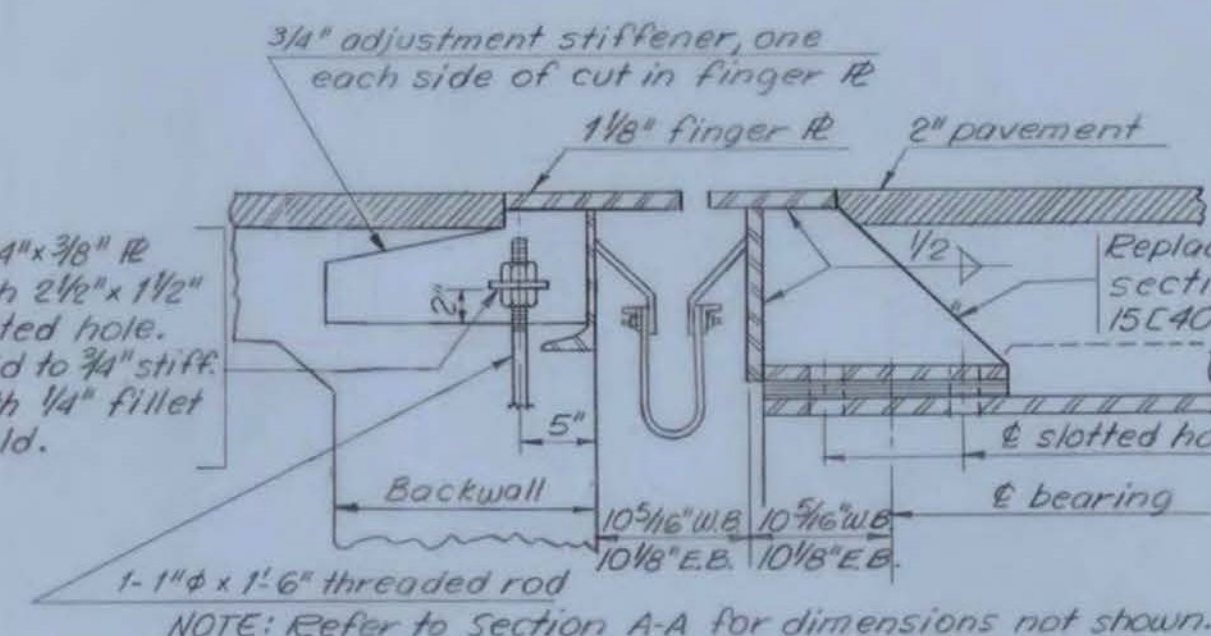
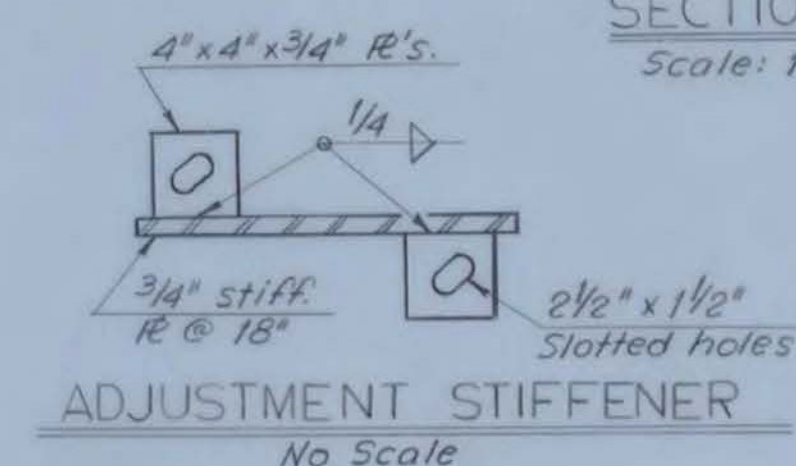
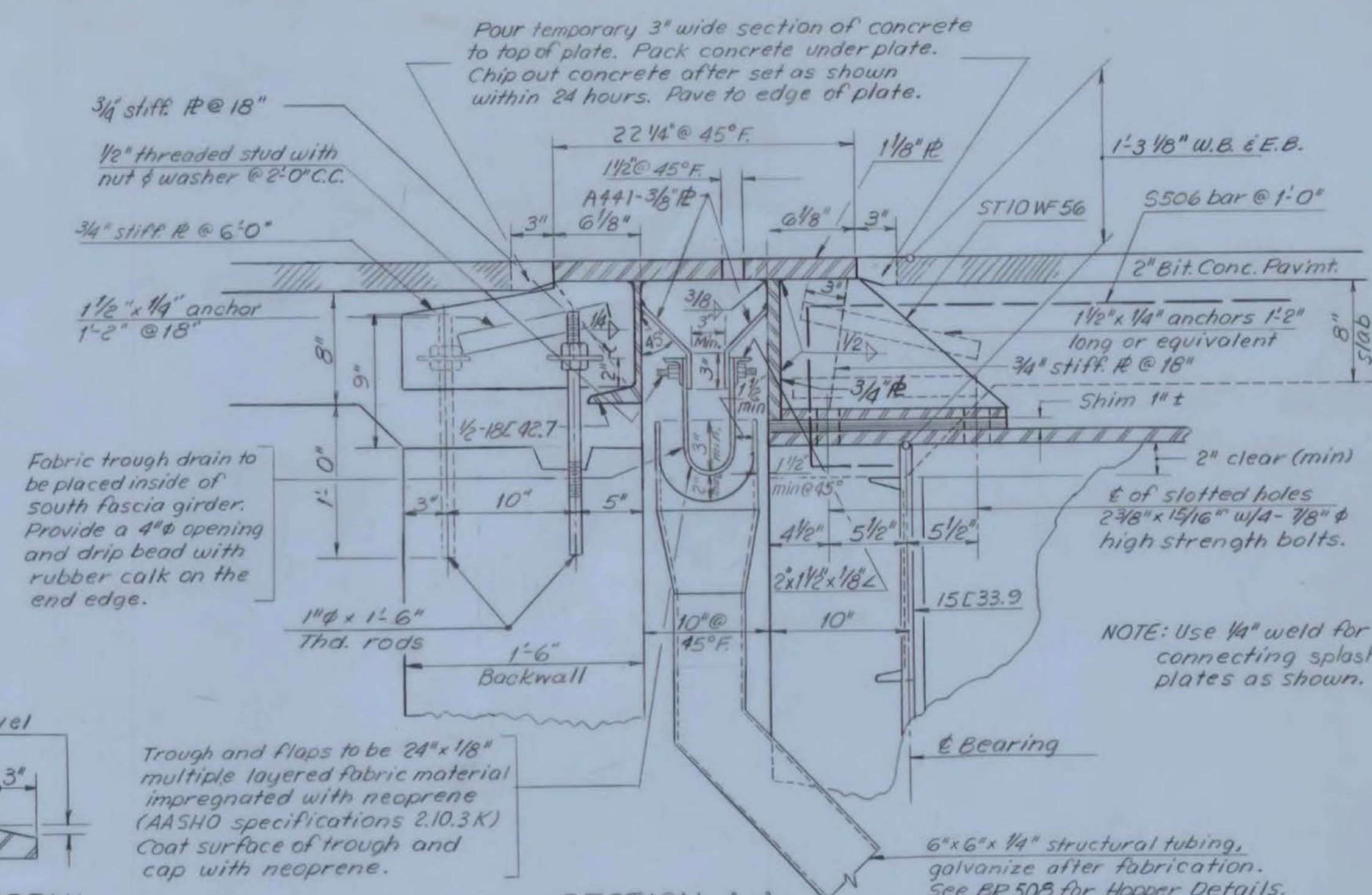
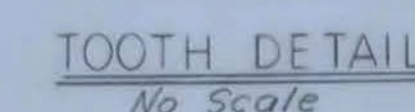
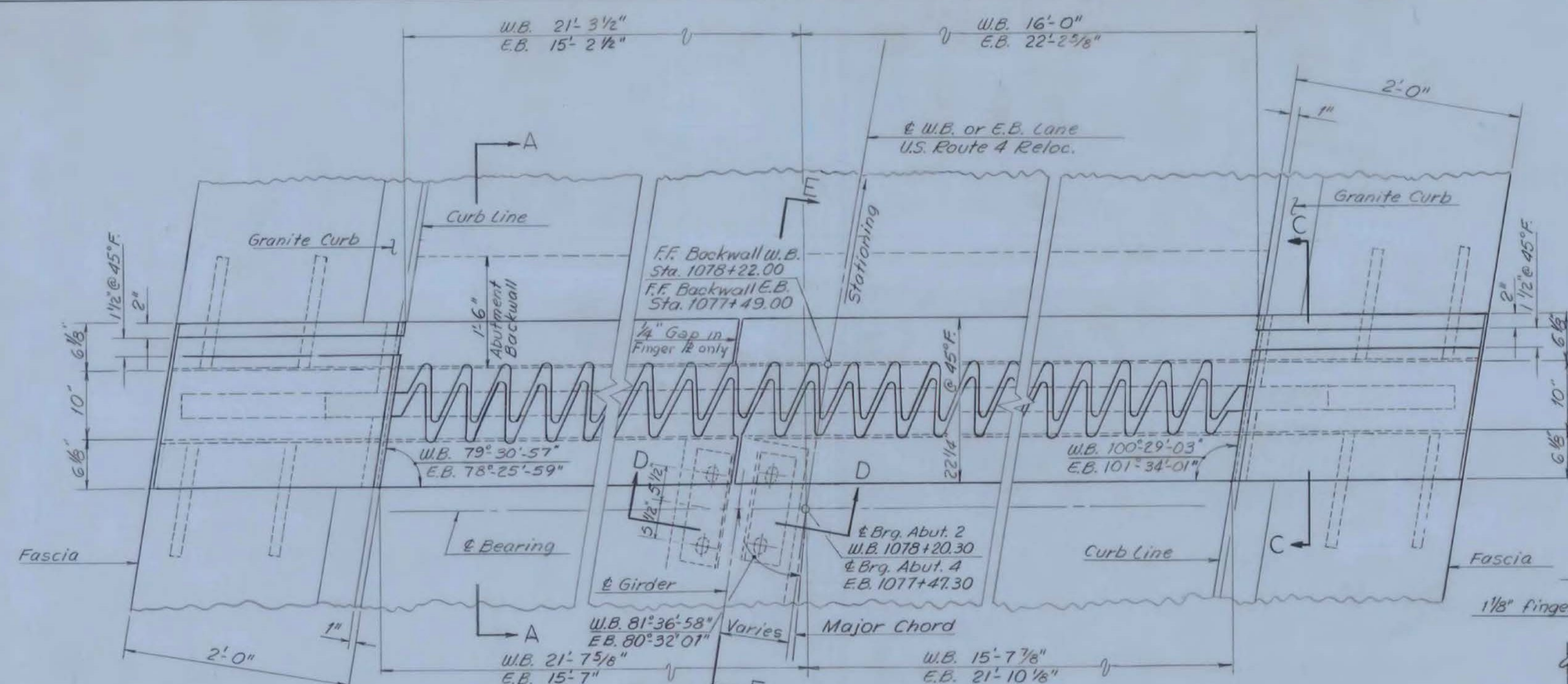
SUPERSTRUCTURE DETAILS

McFARLAND-JOHNSON
CONSULTING ENGINEERS
BINGHAMTON, NEW YORK

DESIGNED MJP CHECKED REC DATE 5-23-68
DRAWN RMG IN CHARGE HGC SCALE As shown

PROJECT NO. F020-1(4) SH/85 OF 632

CONTRACT NO. BR 509



*NOTE:
There must be a 1" minimum left from the edge
of the bolt hole to the edge of the fabric where
the trough is connected to the drip plate.*

All inaccessible areas exposed to the weather after installation shall be given 3 coats of paint prior to installation.
Adjustment bolts to be used @ 6'-0" intervals.

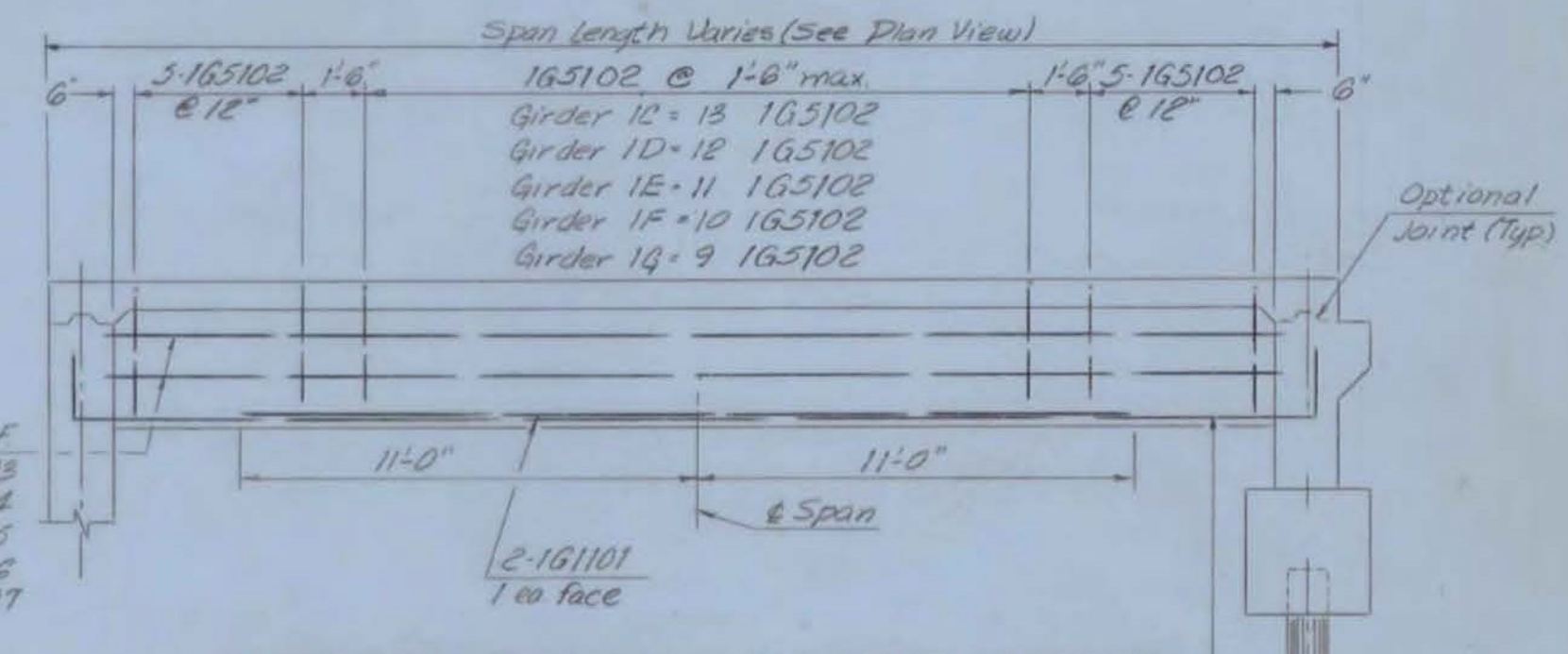
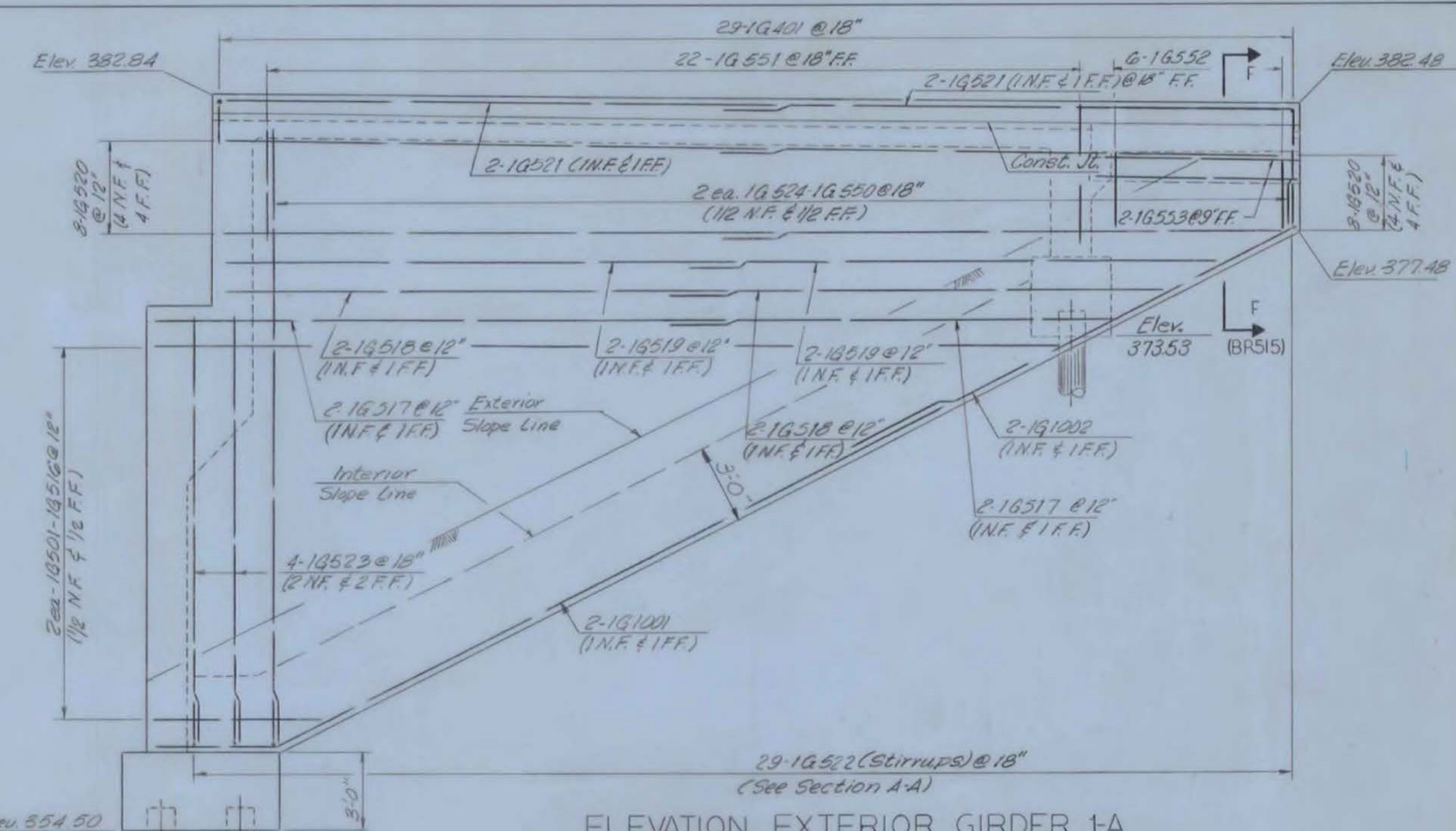
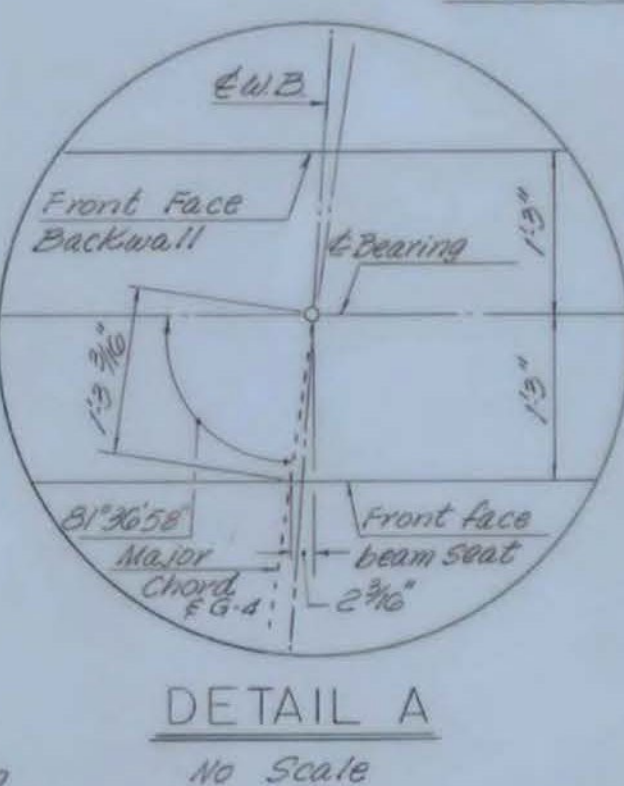
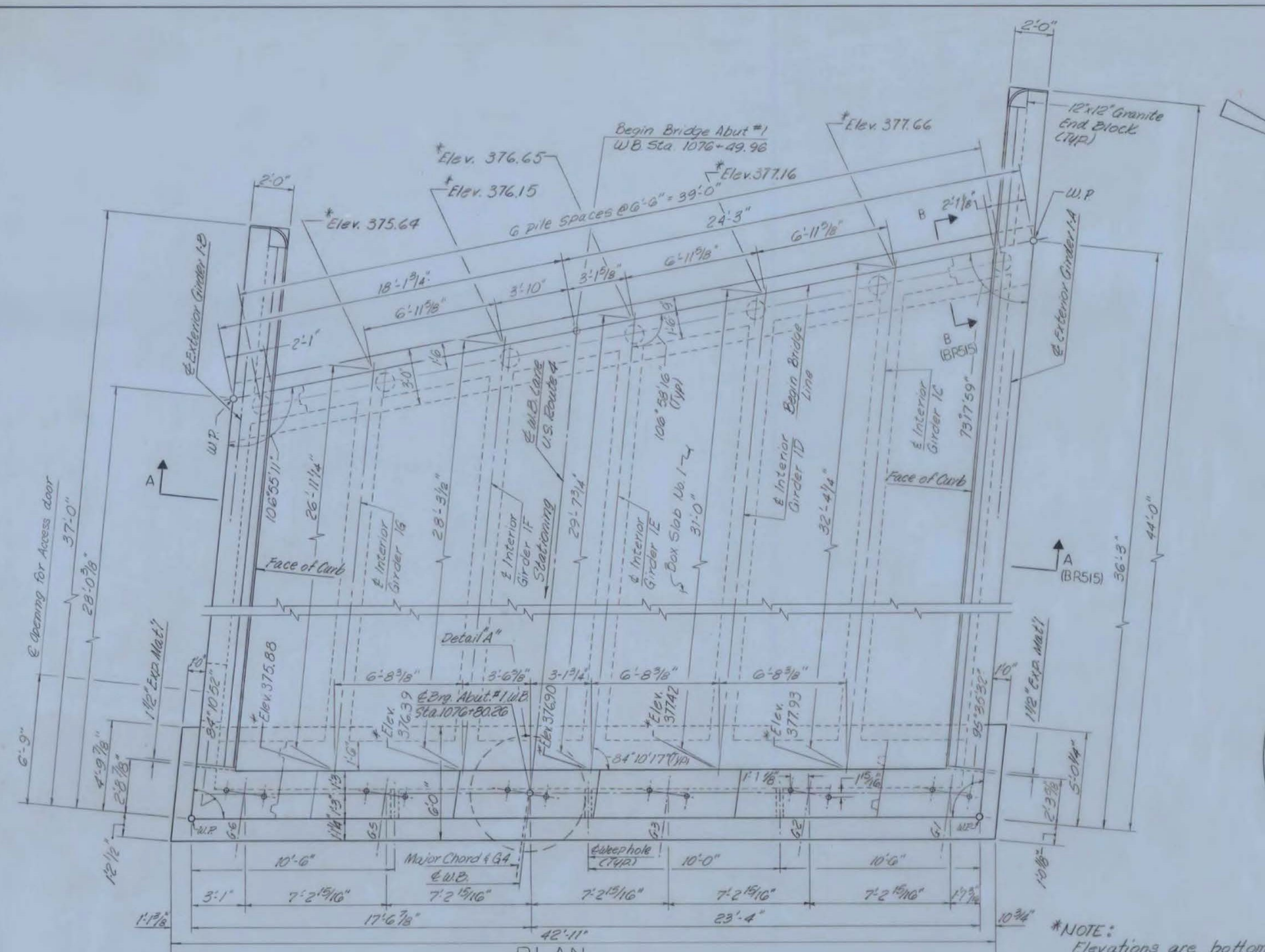
NOTES

1. For General Notes, see BR 501.
2. Dimensions may vary as haunch is adjusted. Shim as required.
3. Expansion dam shall conform to roadway crown.
4. Three coats of paint shall be applied in accordance with Item 404.03 D to the interior surfaces of the expansion dam prior to construction.

Revision:
Changed location of $\frac{1}{4}$ " cut in

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 17 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY

JOINT DETAILS			
MCFARLAND - JOHNSON CONSULTING ENGINEERS BINGHAMTON, NEW YORK			
DESIGNED <i>BRC</i>	CHECKED <i>REC</i>	DATE <i>5-23-68</i>	
DRAWN <i>RMG</i>	IN CHARGE <i>HGC</i>	SCALE <i>As shown</i>	
PROJECT NO. F020 - I		(8) SH 189 OF 255	
CONTRACT NO.		BR 510	255



- NOTES:
1. For General Notes, see BR 501.
 2. For Additional Notes, see BR 515.
 3. For Footing details, see BR 515 & BR 516.
 4. For Key Plan, see BR 516.
 5. Finish Grade and Top of wall elevations may be adjusted by the Engineer.
 6. Maximum spacing between weep holes shall be 10'-0".
 7. For reinforcing details, see BR 521 thru BR 524.
 8. For Access Door Detail, see BR 518.

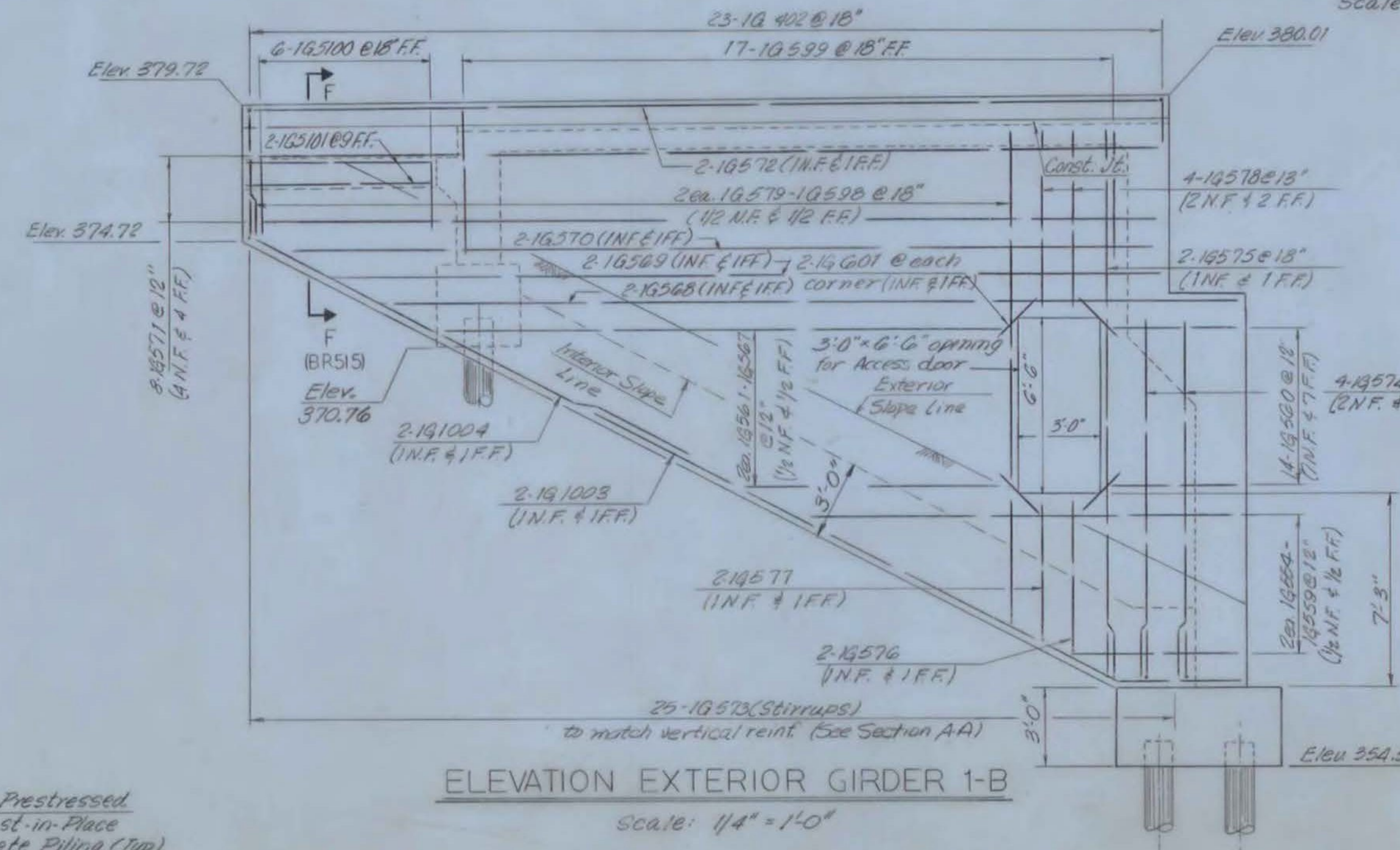
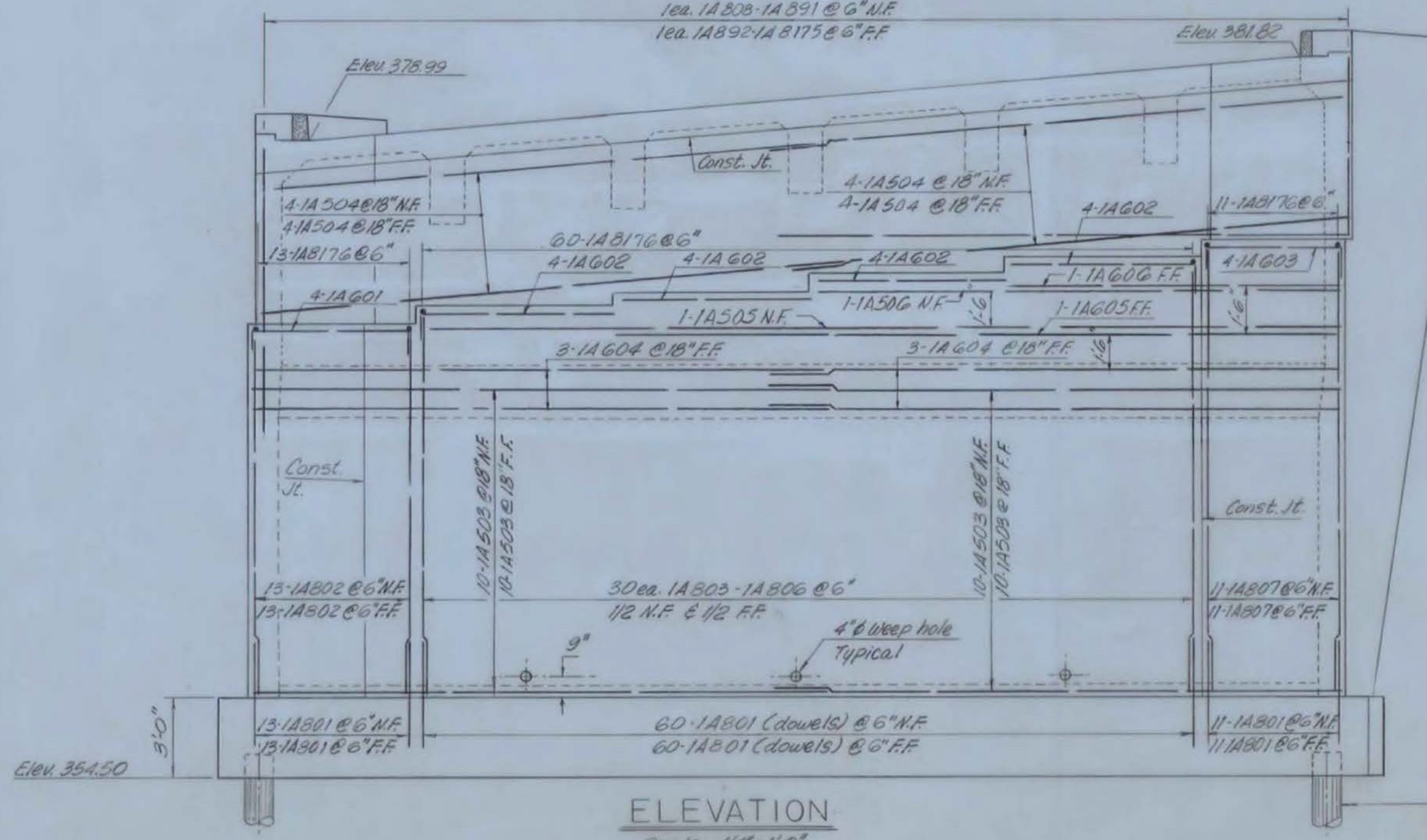
**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 18 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY**

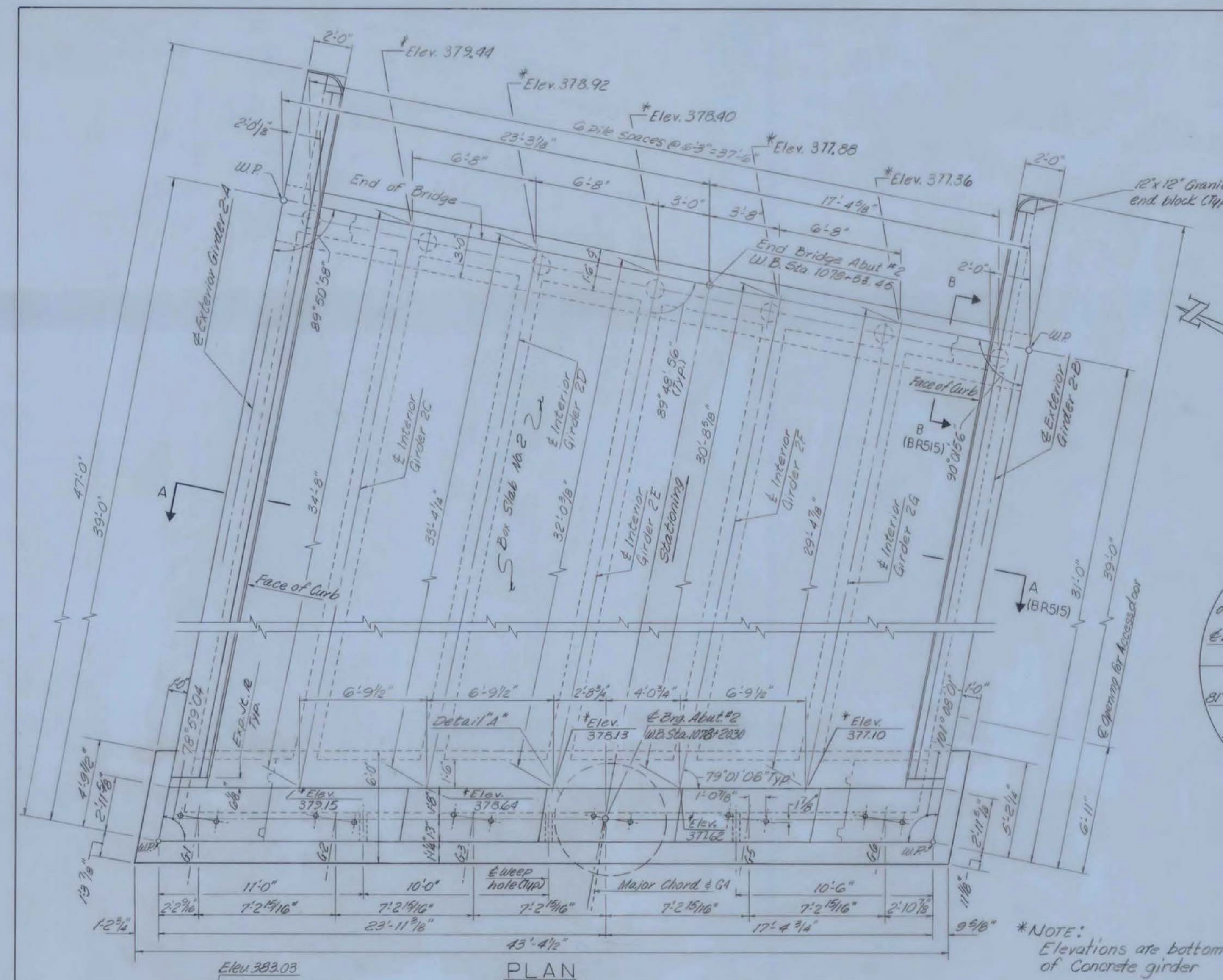
ABUTMENT NO.1 DETAILS

McFARLAND-JOHNSON
CONSULTING ENGINEERS
BINGHAMTON, NEW YORK

DESIGNED BRK CHECKED BRK DATE 5-23-68
DRAWN J.J.R. IN CHARGE H.G.C. SCALE AS NOTED
PROJECT NO. F020-1(4) SH 190 OF 532

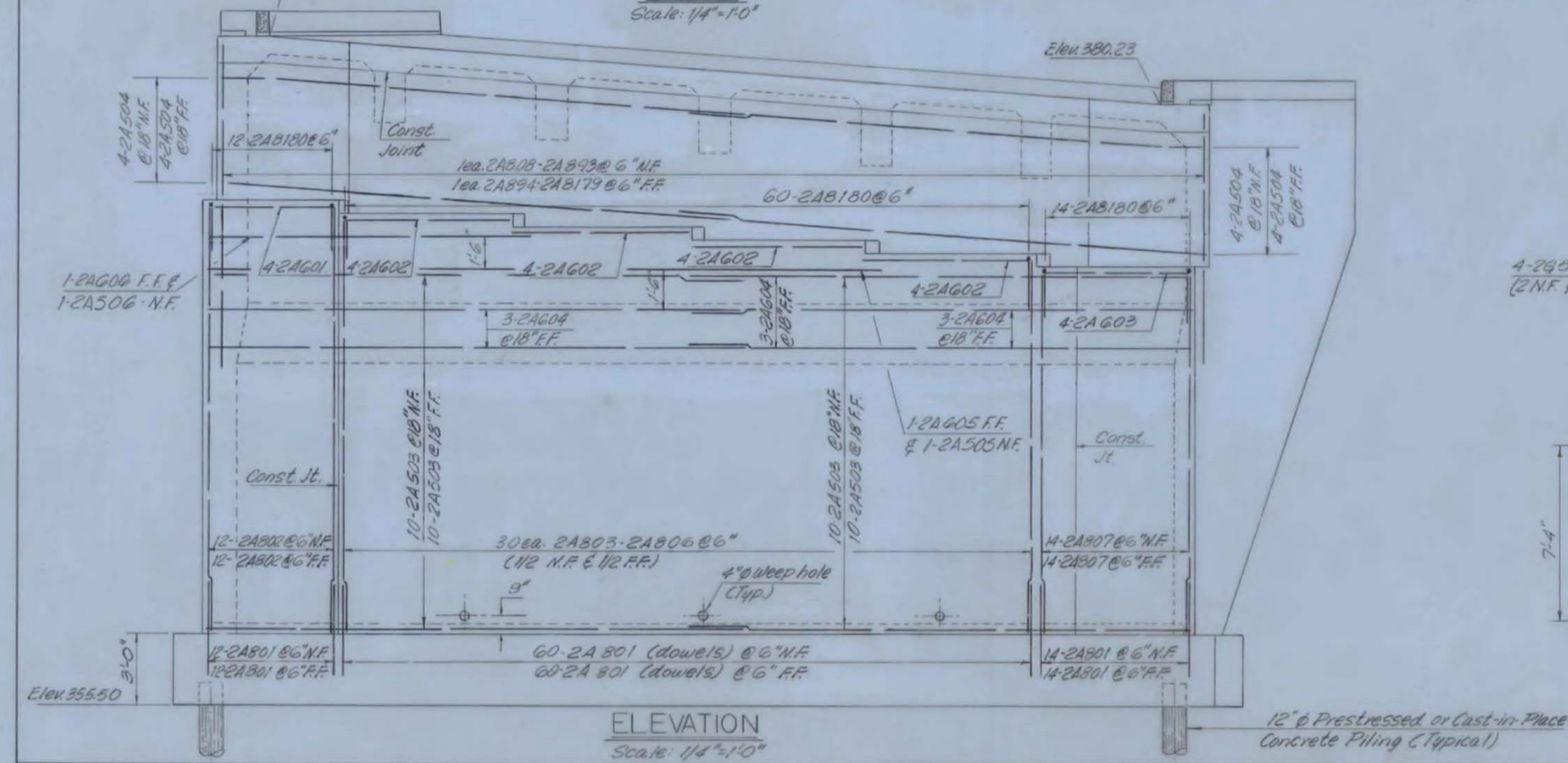
CONTRACT NO. BR 511



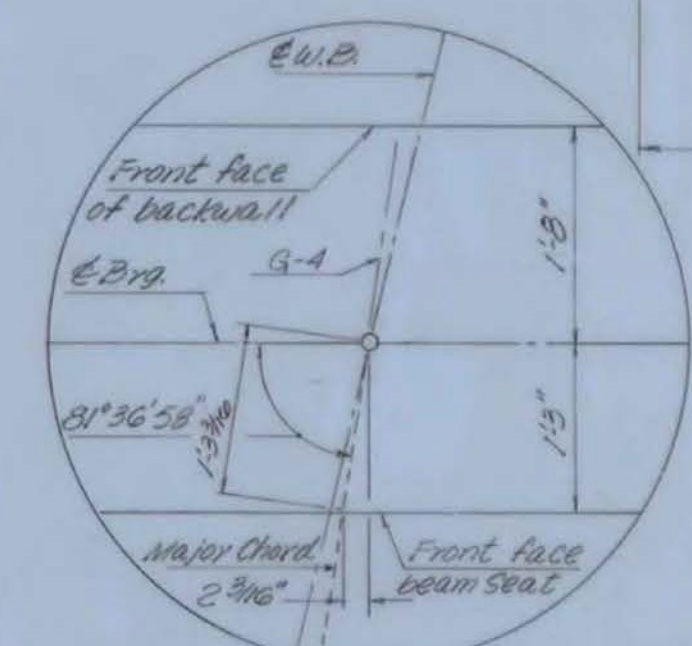


PLAN
Scale: 1/4" = 1'-0"

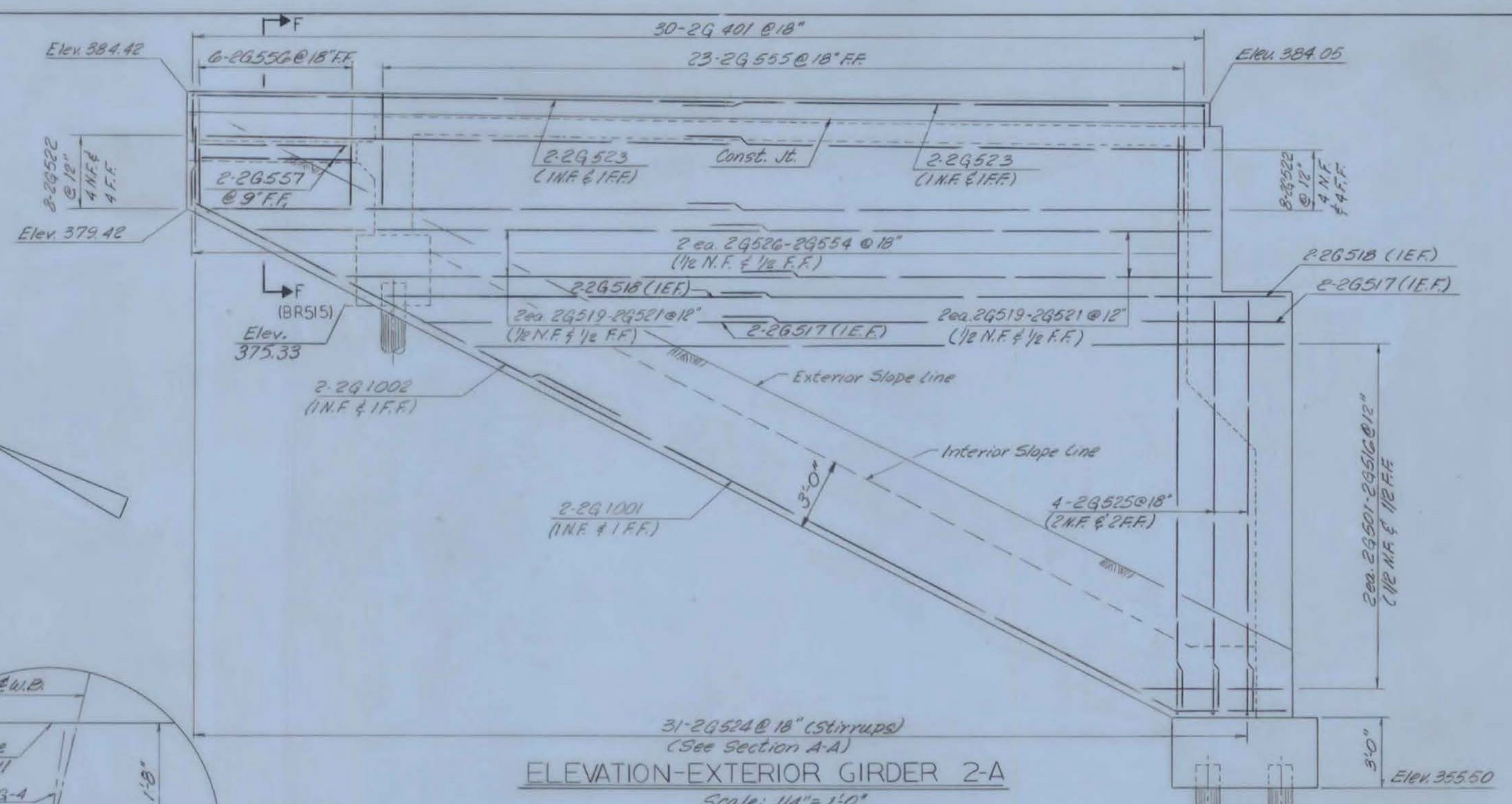
*NOTE:
Elevations are bottom
of concrete girder



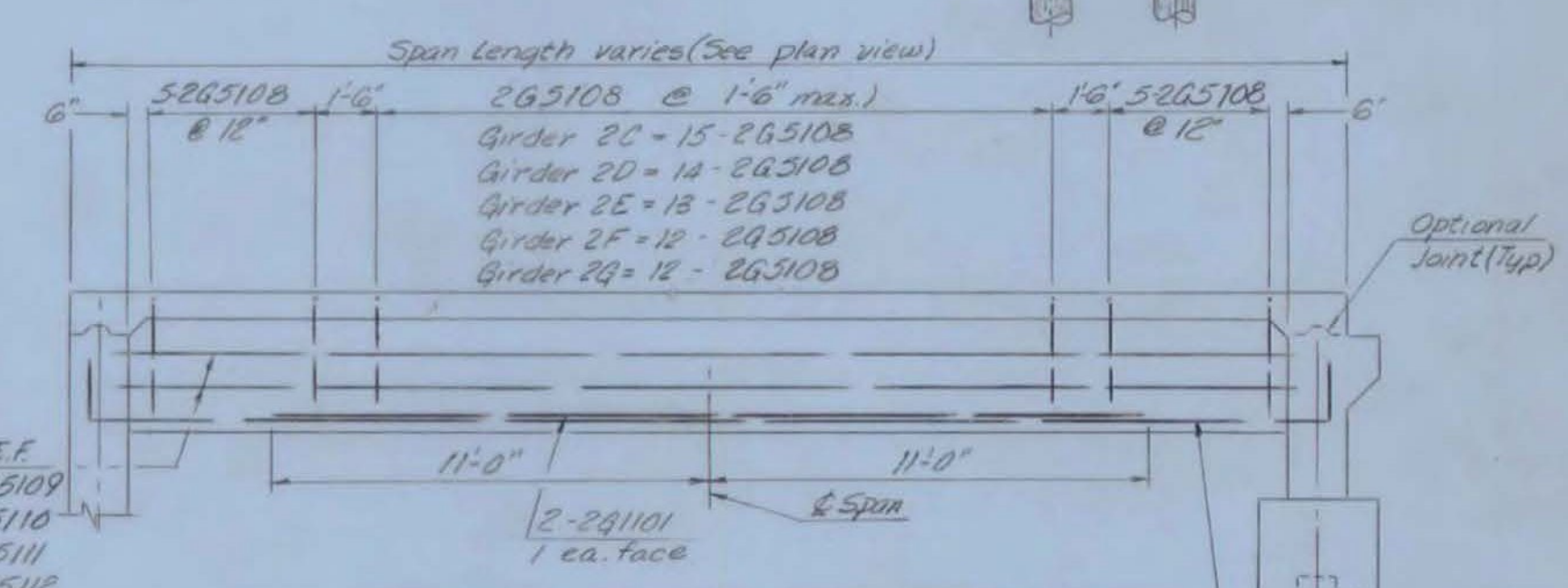
ELEVATION
Scale: 1/4" = 1'-0"



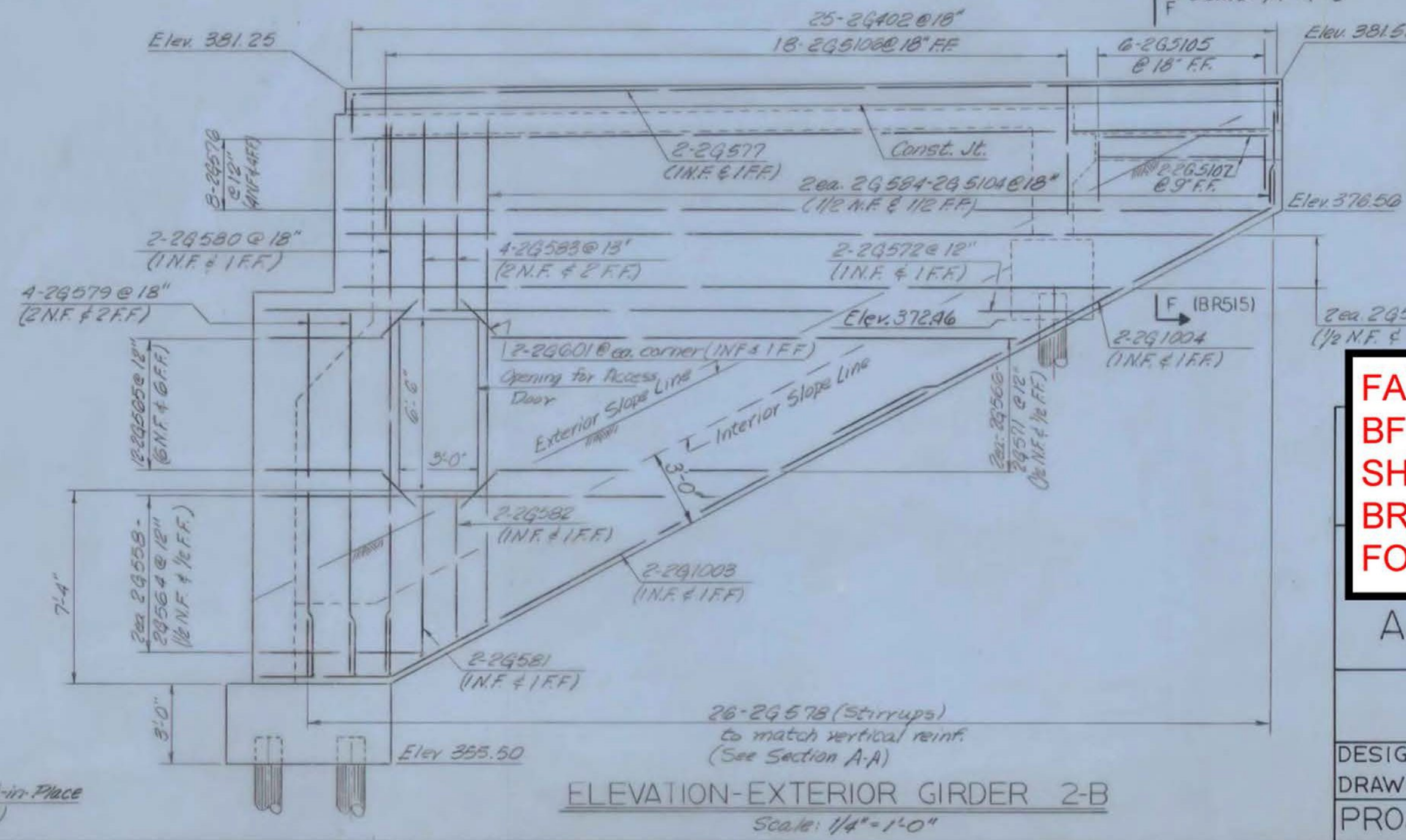
DETAIL A
No Scale



ELEVATION-EXTERIOR GIRDER 2-A
Scale: 1/4" = 1'-0"



ELEVATION-TYPICAL INTERIOR GIRDER
Scale: 1/4" = 1'-0"

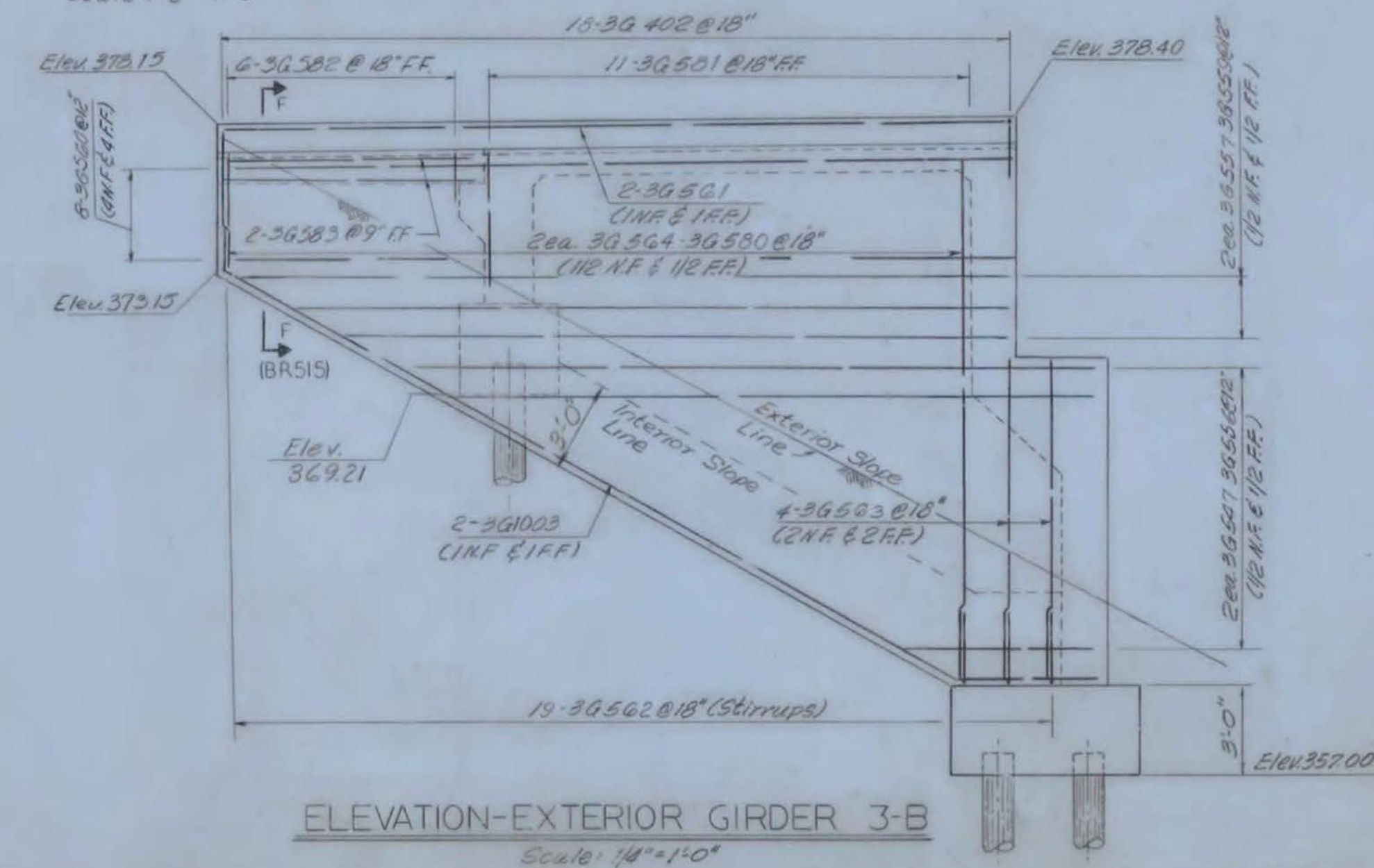
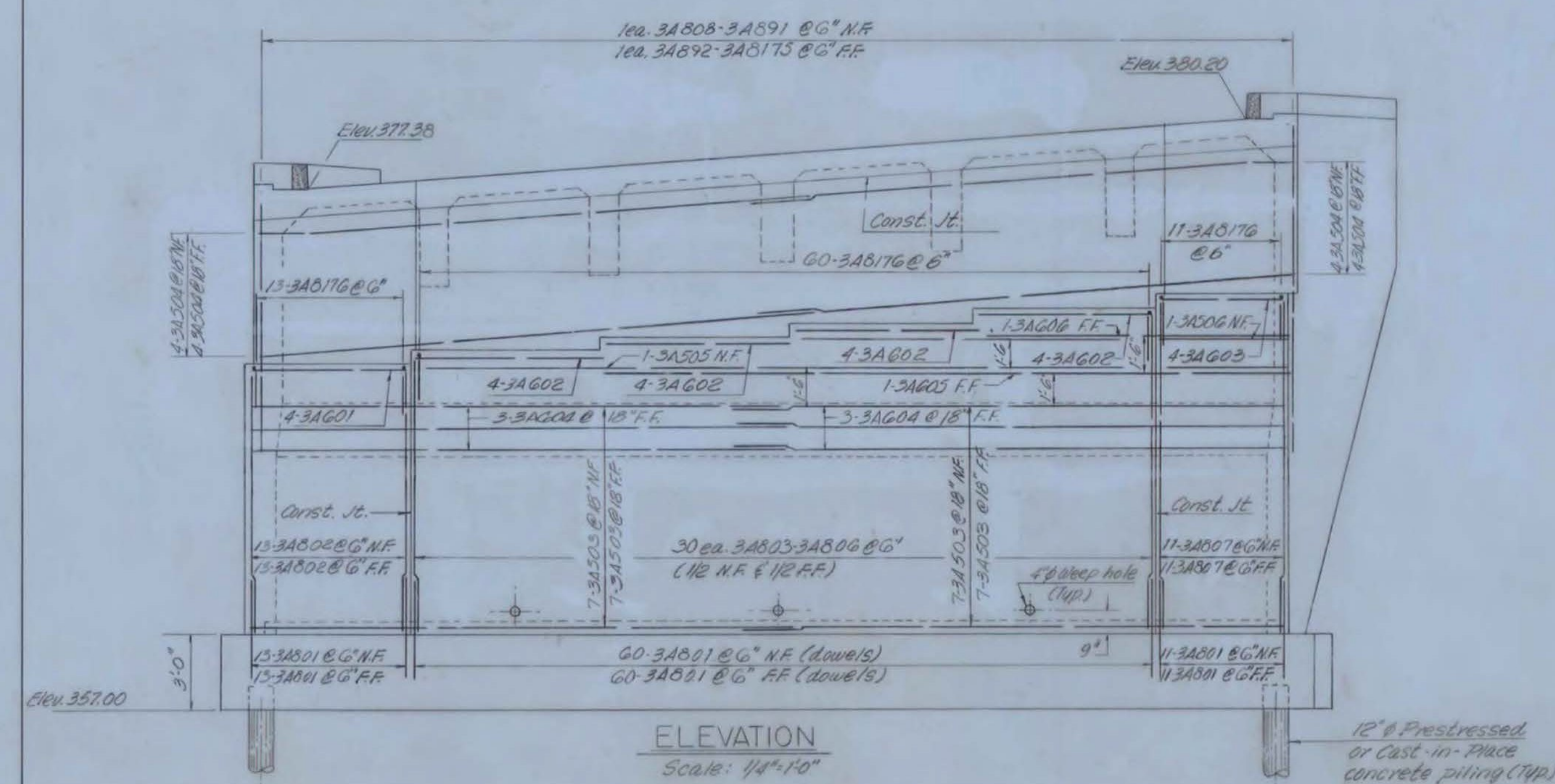
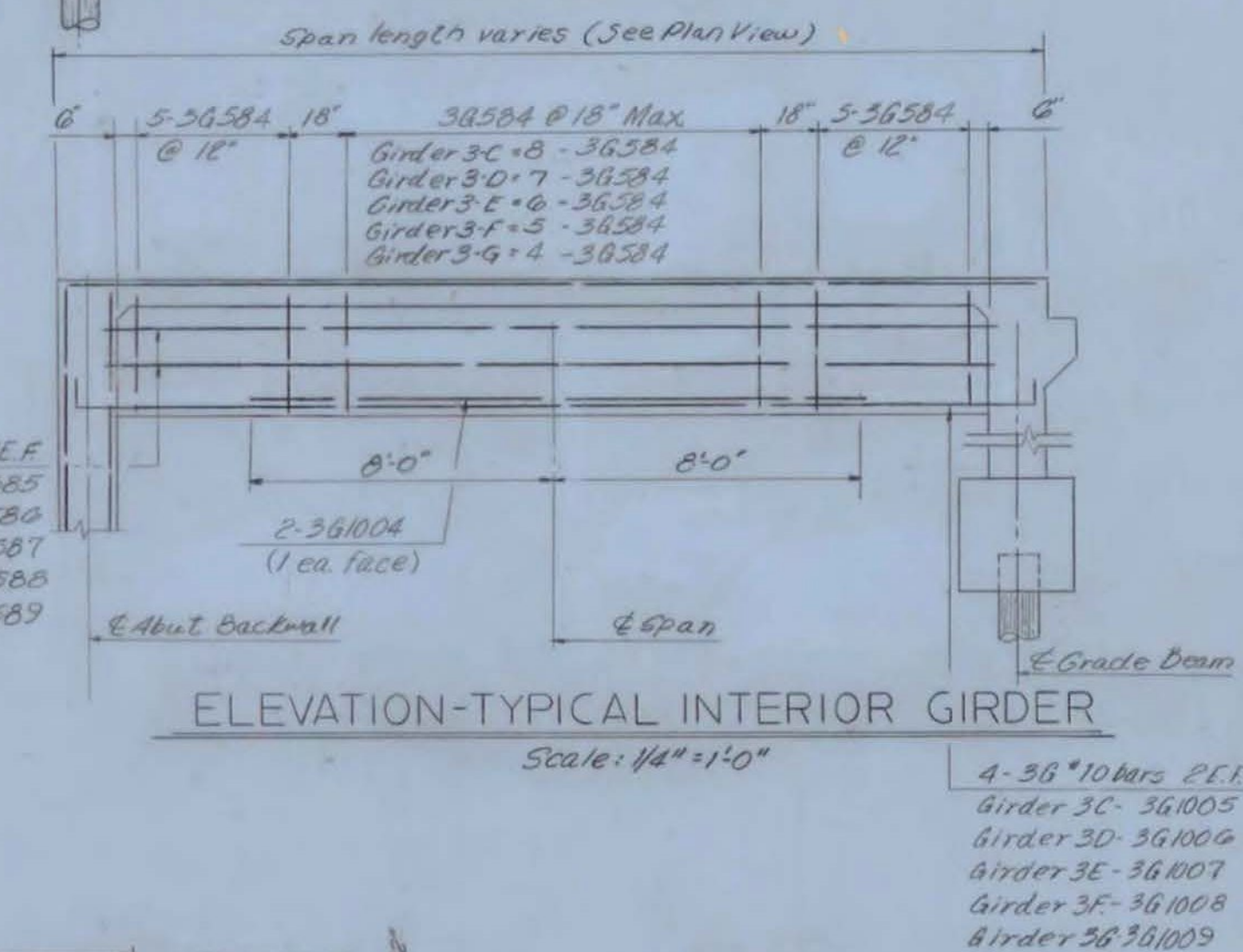
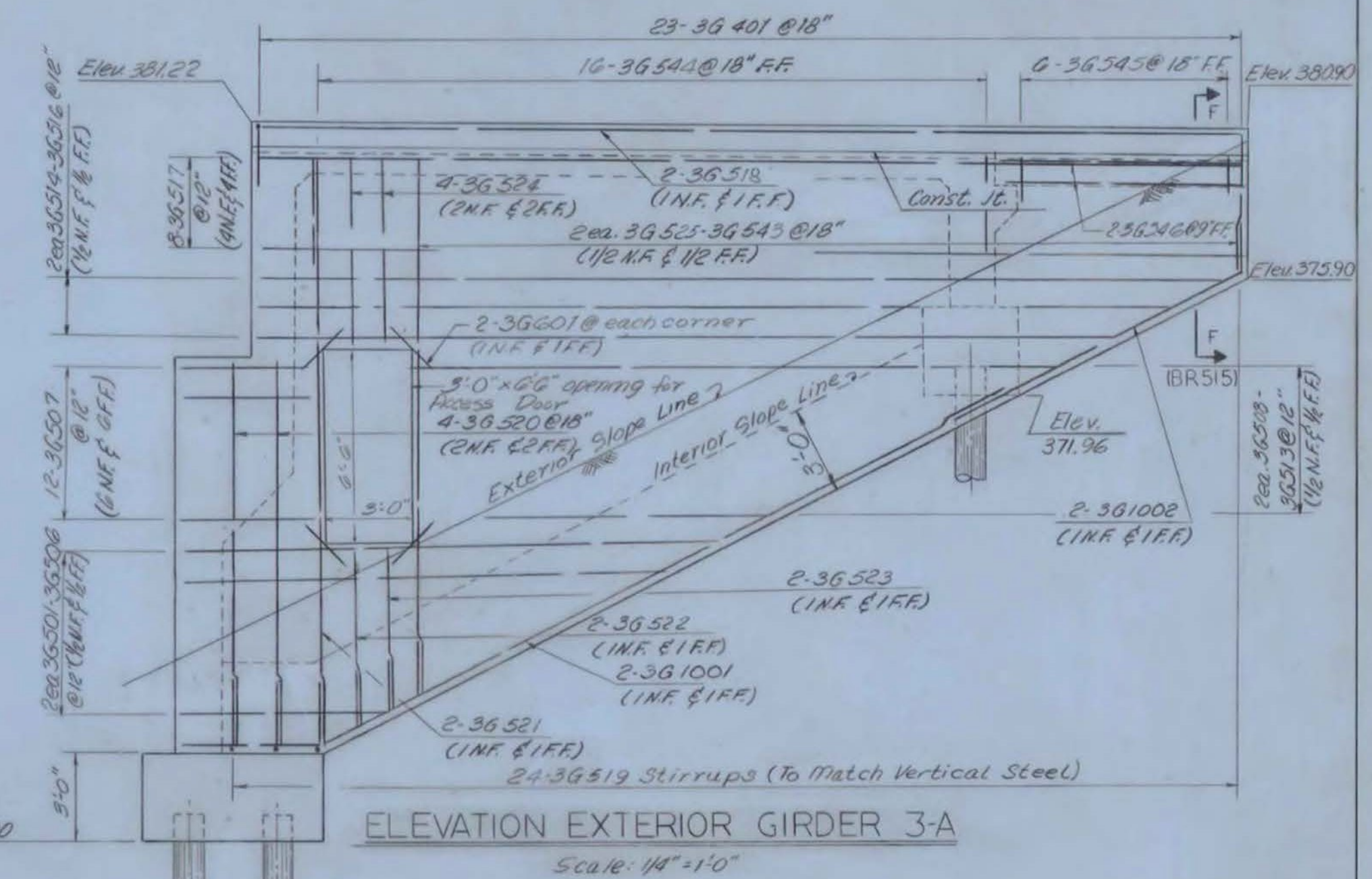
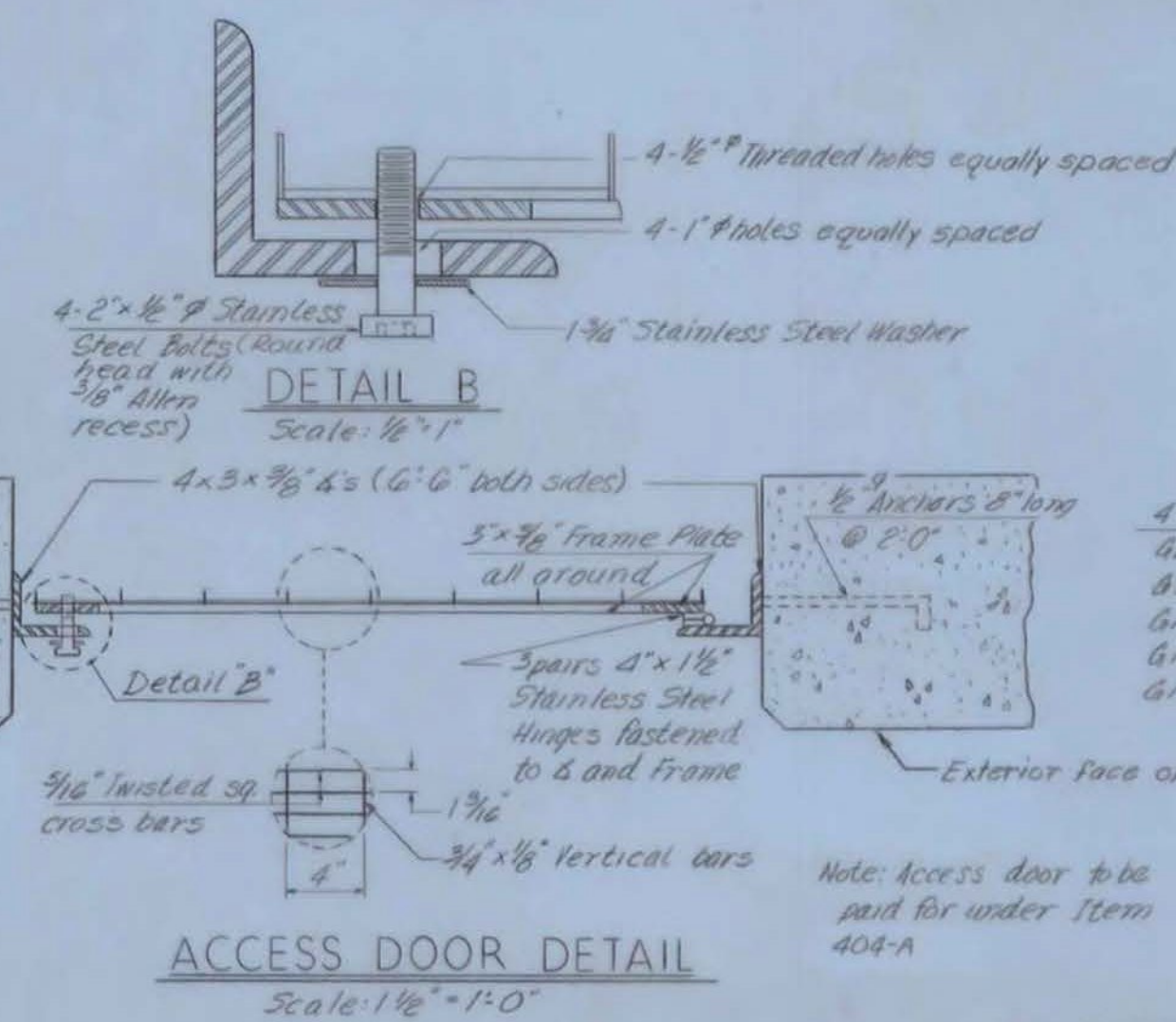
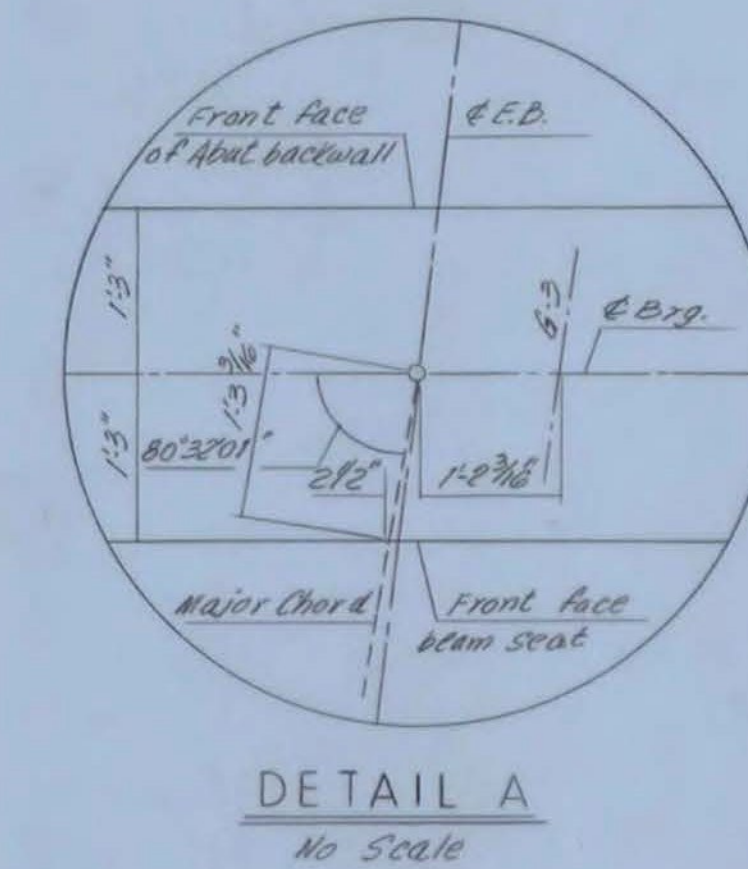
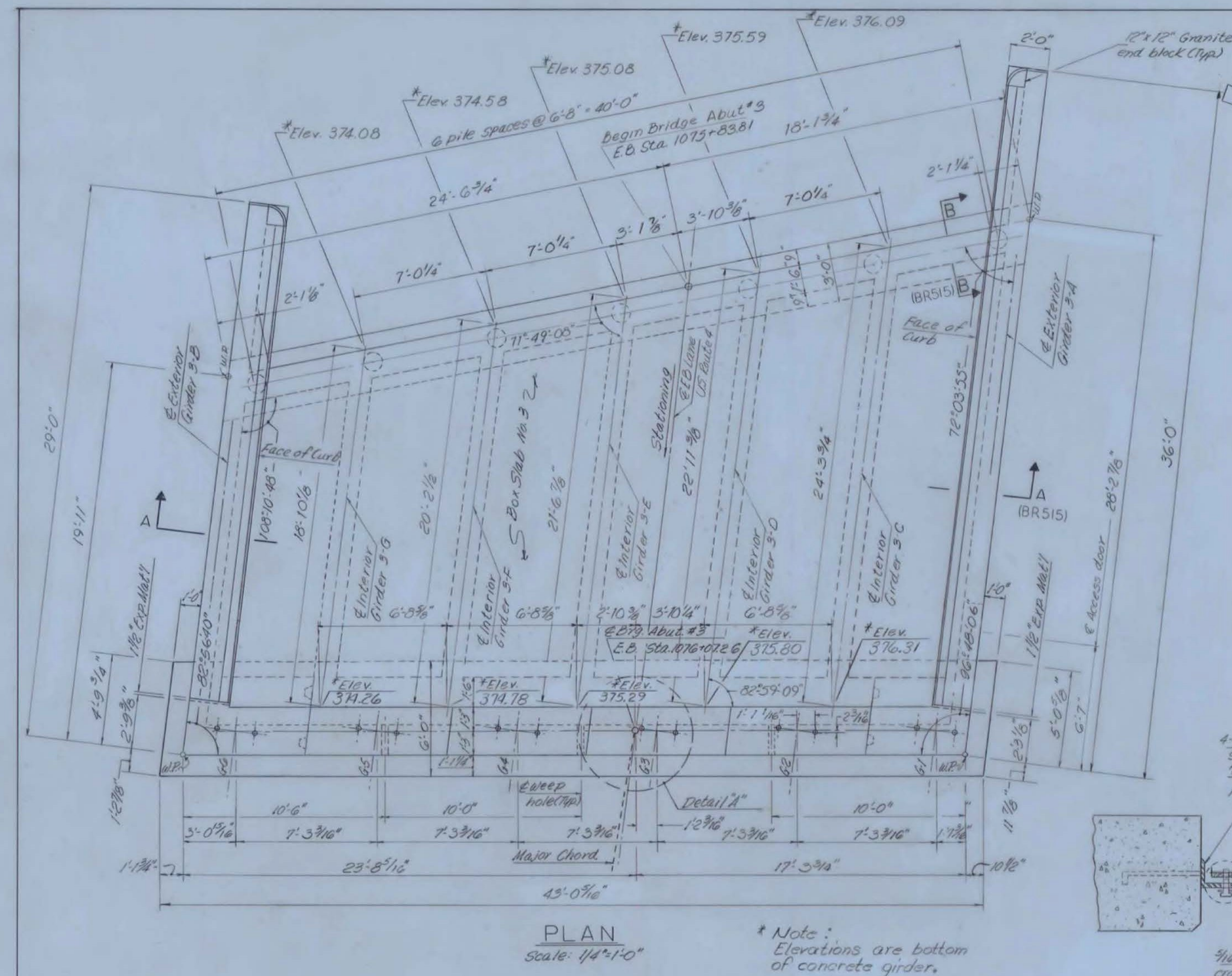


ELEVATION-EXTERIOR GIRDER 2-B
Scale: 1/4" = 1'-0"

NOTES:
1. For General Notes, see DE 501.
2. For additional notes see DE 511 & DE 515.

**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 19 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY**

ABUTMENT NO. 2 DETAILS
McFARLAND-JOHNSON
CONSULTING ENGINEERS
BINGHAMTON, NEW YORK
DESIGNED BRK CHECKED BRK DATE 5-23-68
DRAWN J.J.R. IN CHARGE H.G.C. SCALE AS NOTED
PROJECT NO. F020-1(4) SH 191 OF 332
CONTRACT NO. BR 512



NOTES

1. For General Notes, see BR 501.
2. For additional notes, see BR 511 & BR 515.

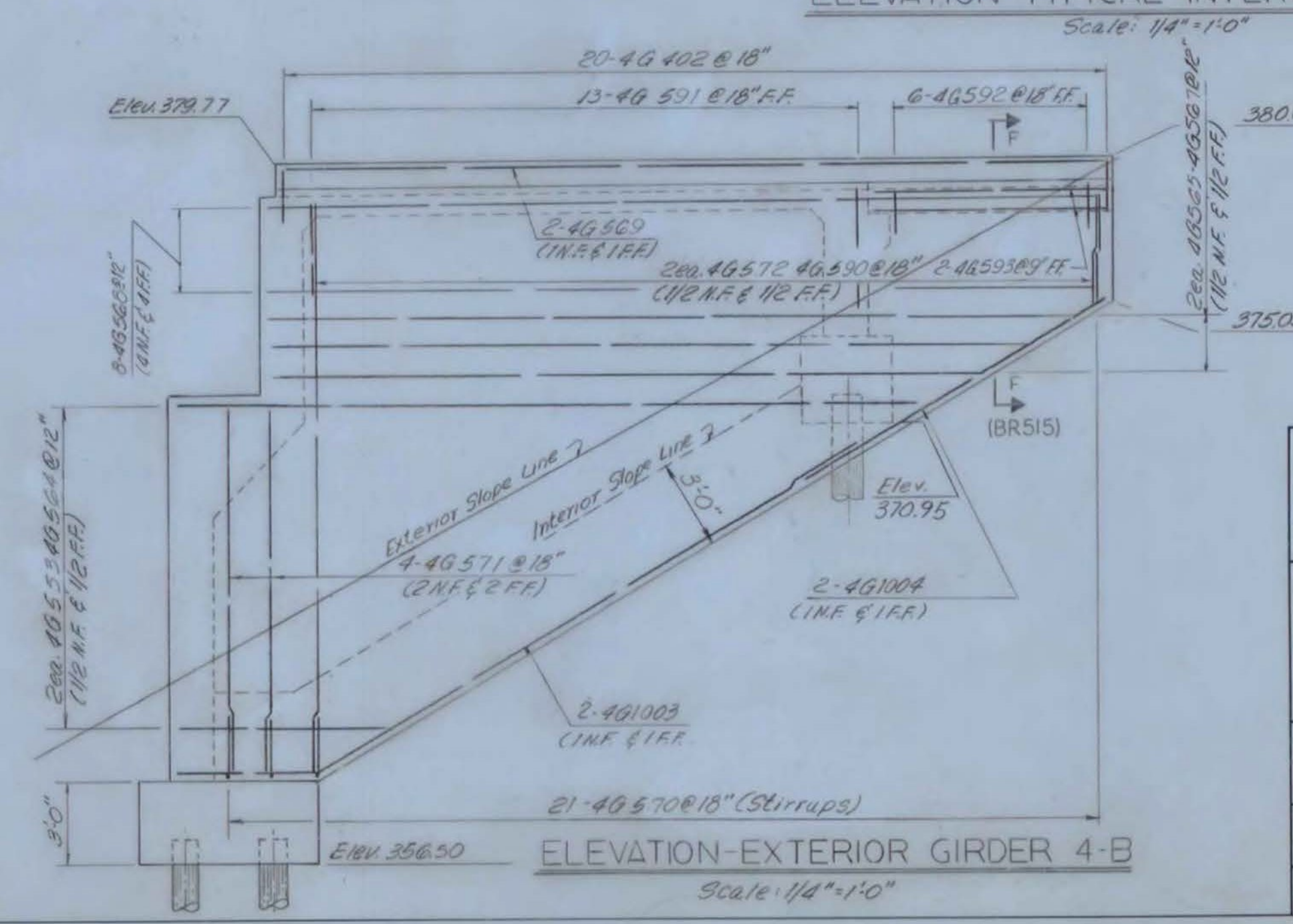
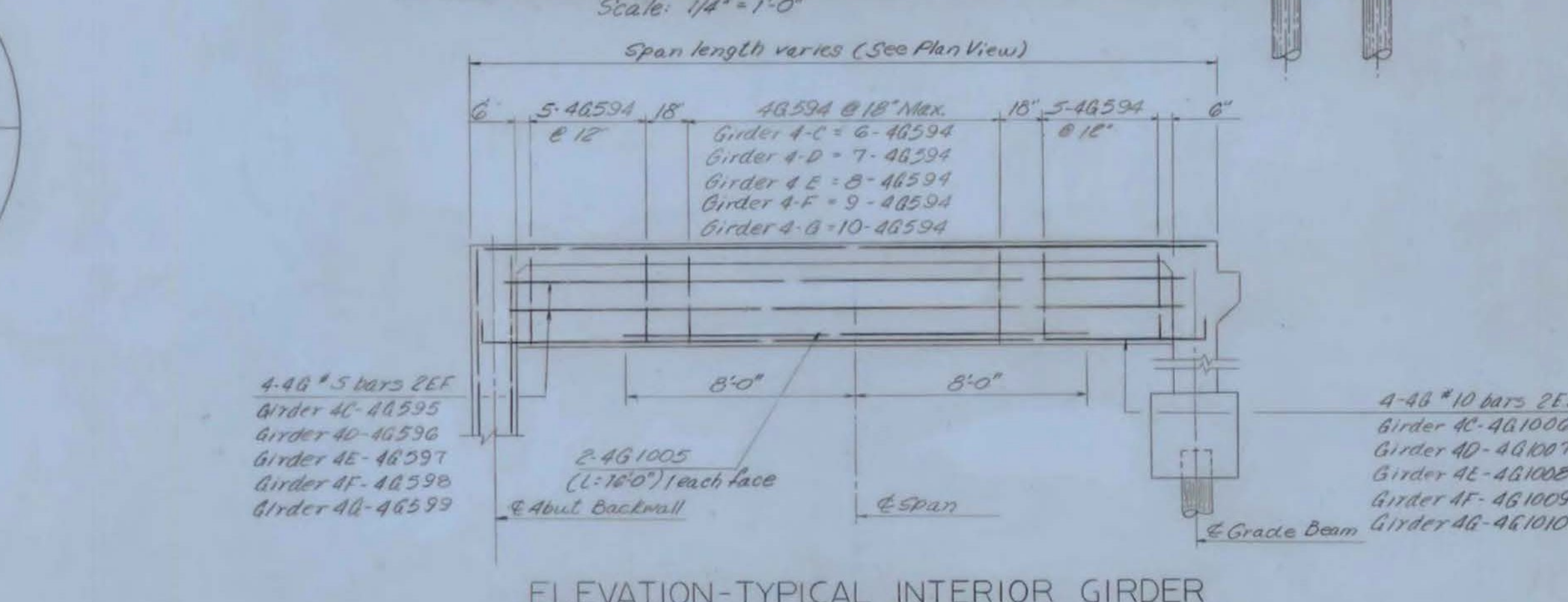
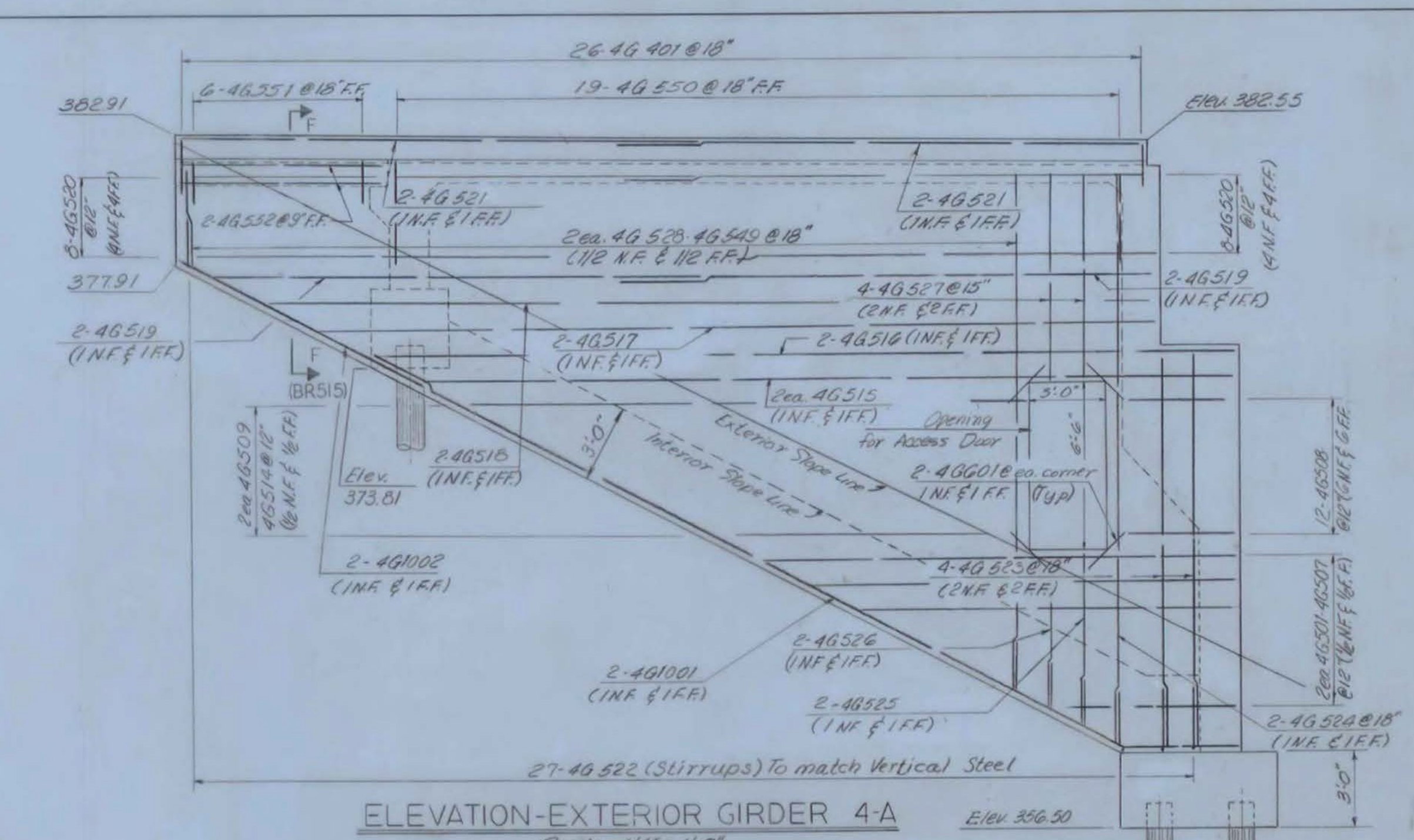
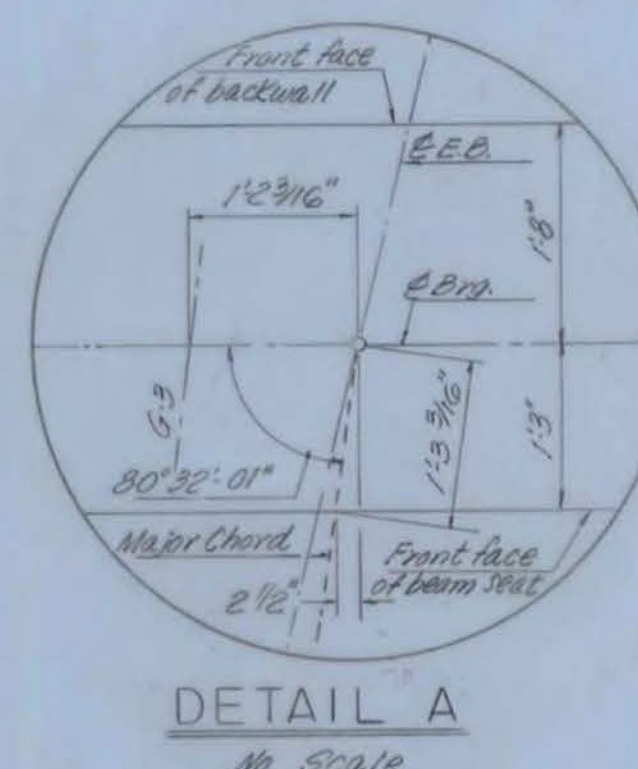
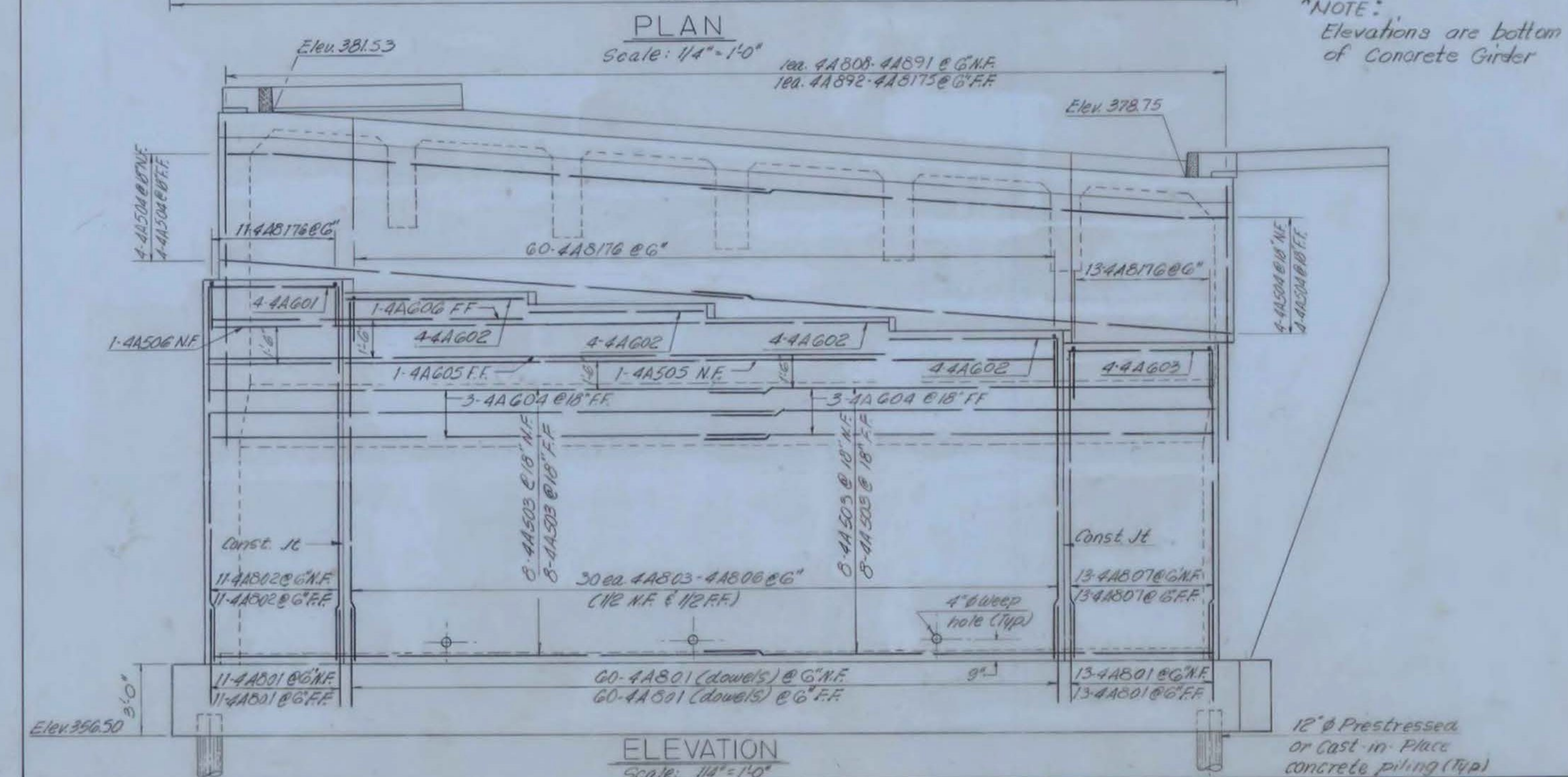
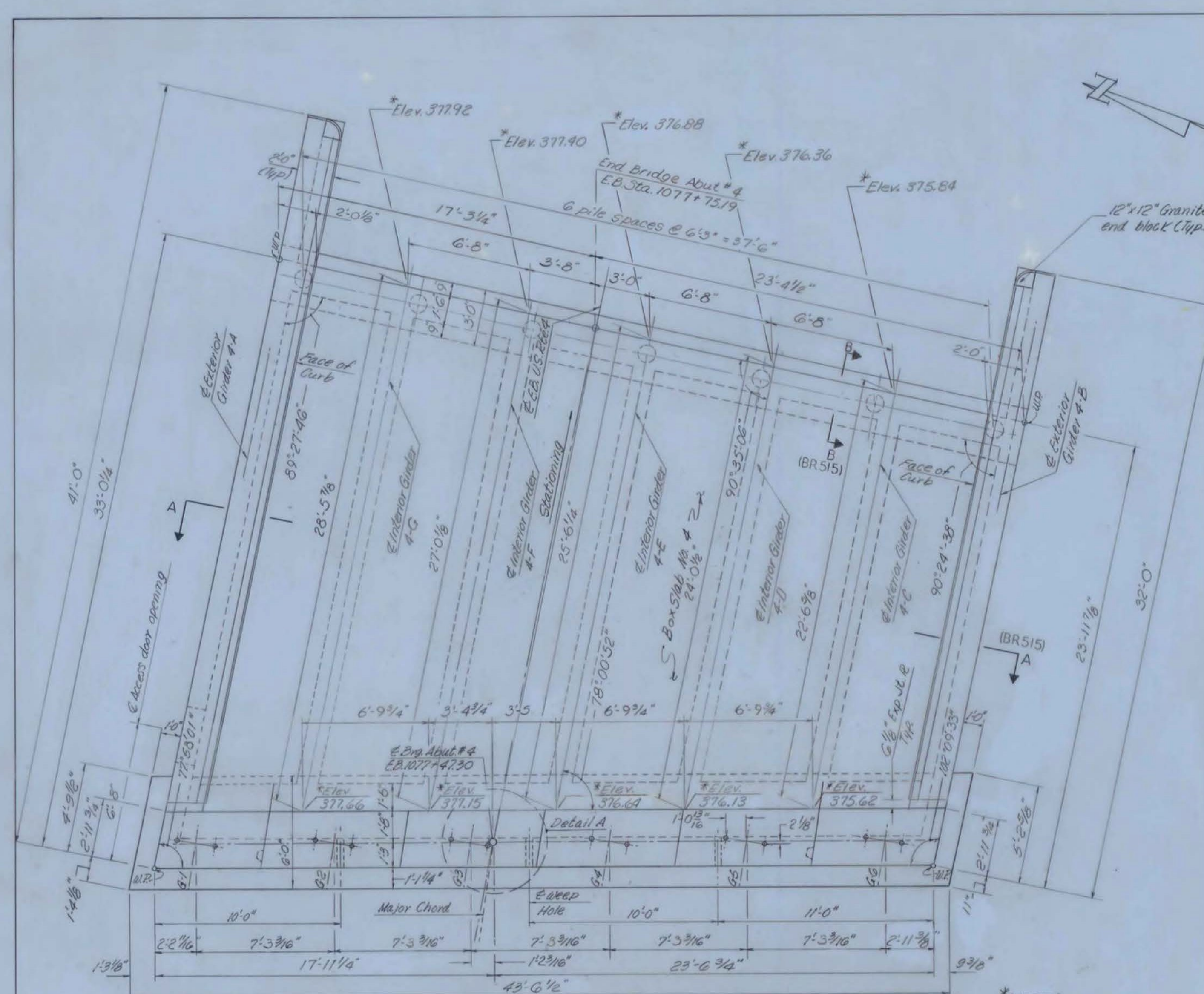
FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 20 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY

U.S. ROUTE 4
U.S. RTE. 4 RELOCATION
OVER VT. 22A RELOC.
ABUTMENT NO3 DETAILS

McFARLAND-JOHNSON CONSULTING ENGINEERS BINGHAMTON, NEW YORK			
DESIGNED <u>BRK</u>	CHECKED <u>BRK</u>	DATE <u>5-23-68</u>	
DRAWN <u>CJP</u>	IN CHARGE <u>HGC</u>	SCALE <u>AS NOTED</u>	
PROJECT NO. F020-1(4) SH 192 OF 532			

CONTRACT NO.

BR 513



NOTES:

1. For General Notes, see BR501.
2. For additional information, see BR 511 & BR515.

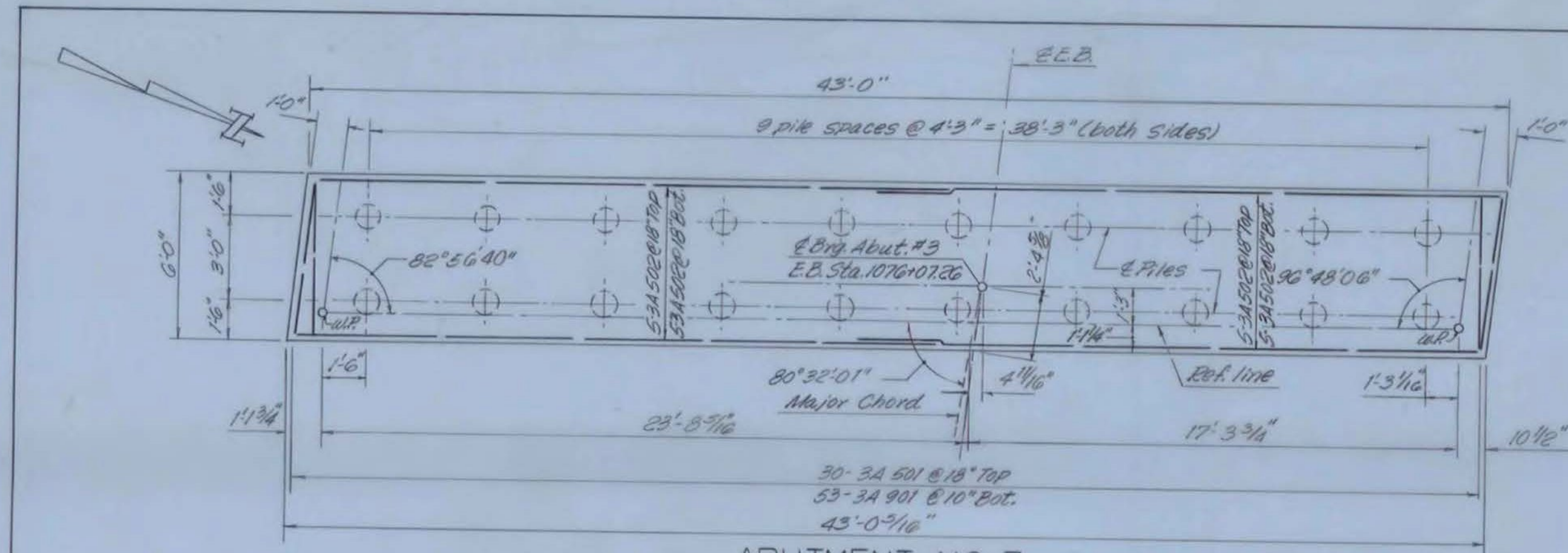
**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 21 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY**

U.S. ROUTE 4
U.S. RTE. 4 RELOCATION
OVER VT. 22A RELOC.
ABUTMENT NO. 4 DETAILS

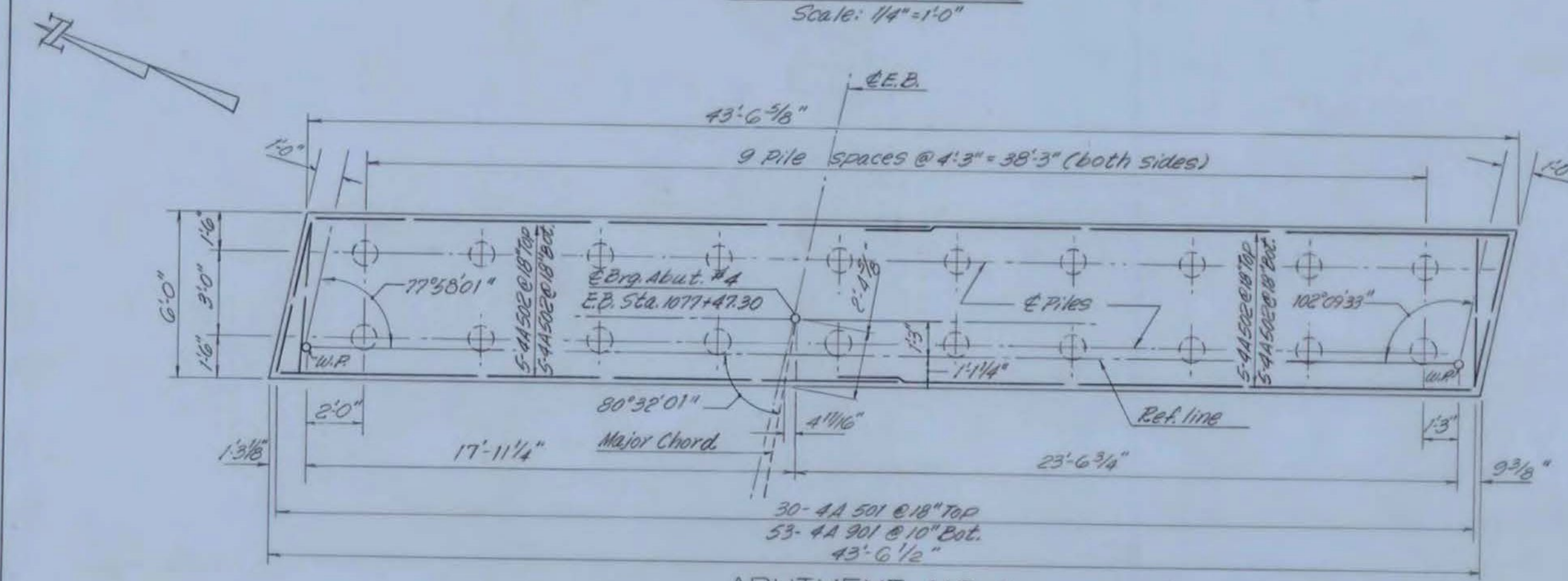
McFARLAND-JOHNSON
CONSULTING ENGINEERS
BINGHAMTON, NEW YORK

DESIGNED: BJK CHECKED: BJK DATE: 5-23-68
DRAWN: CJP IN CHARGE: HGC SCALE: AS NOTED
PROJECT NO: F020-1(4) SH 193 OF 532

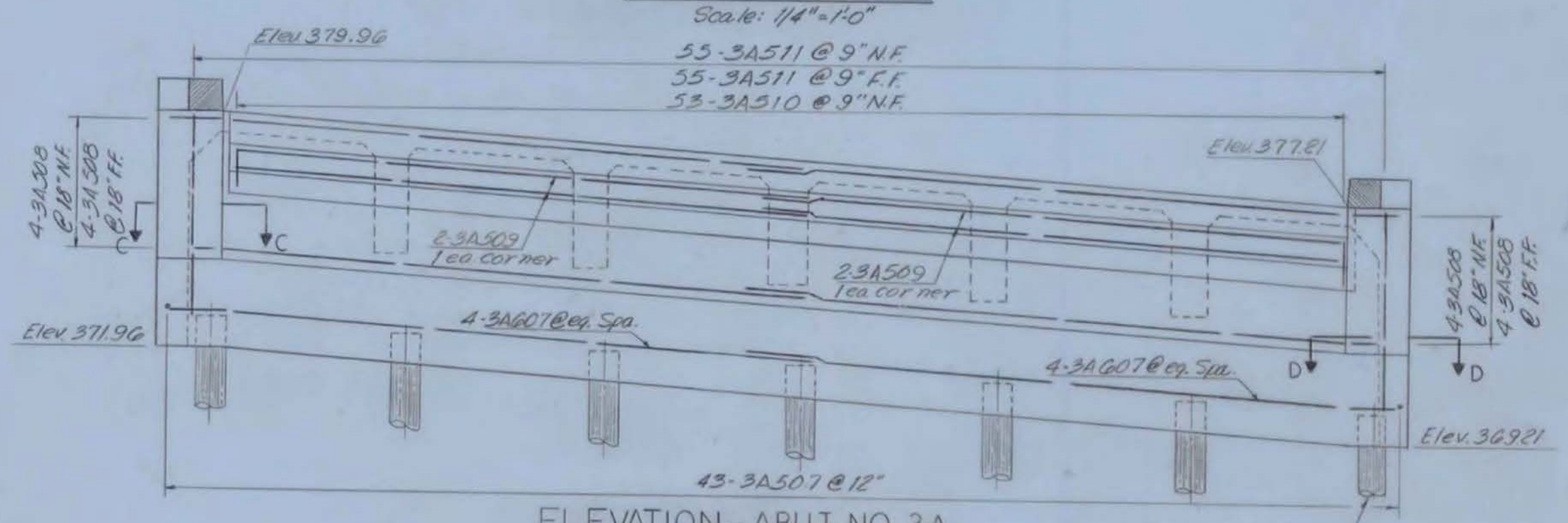
CONTRACT NO. BR 514



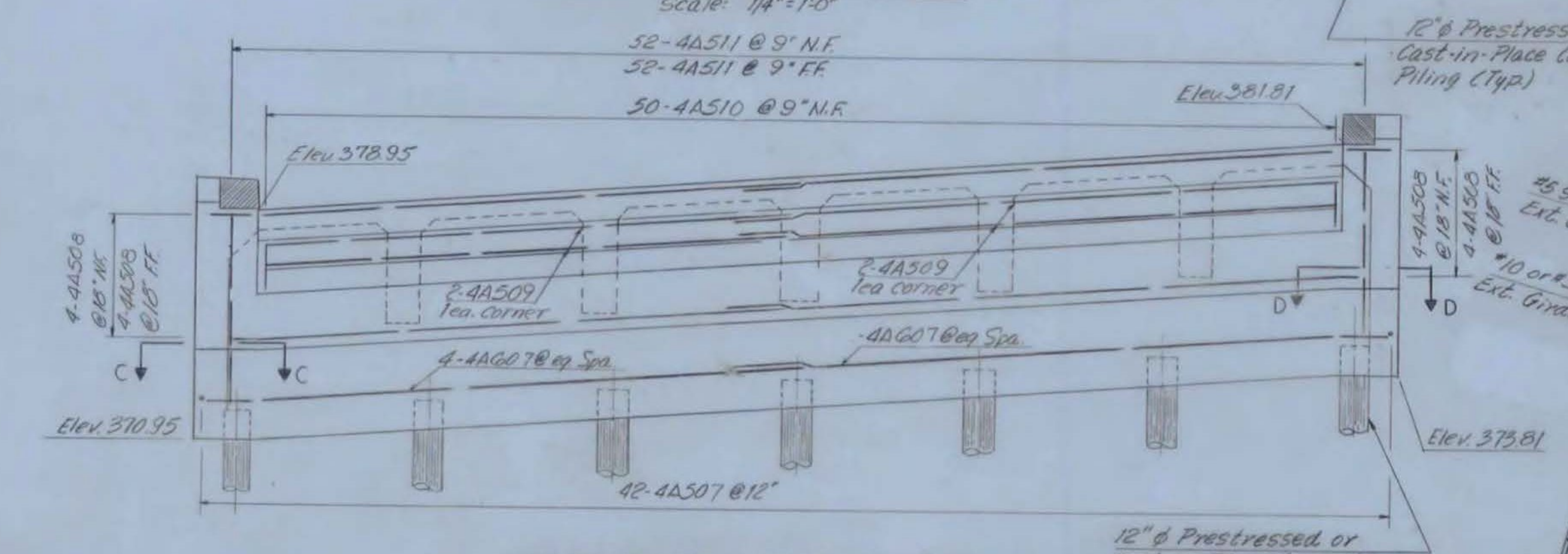
ABUTMENT NO. 3
Scale: 1/4" = 1'-0"



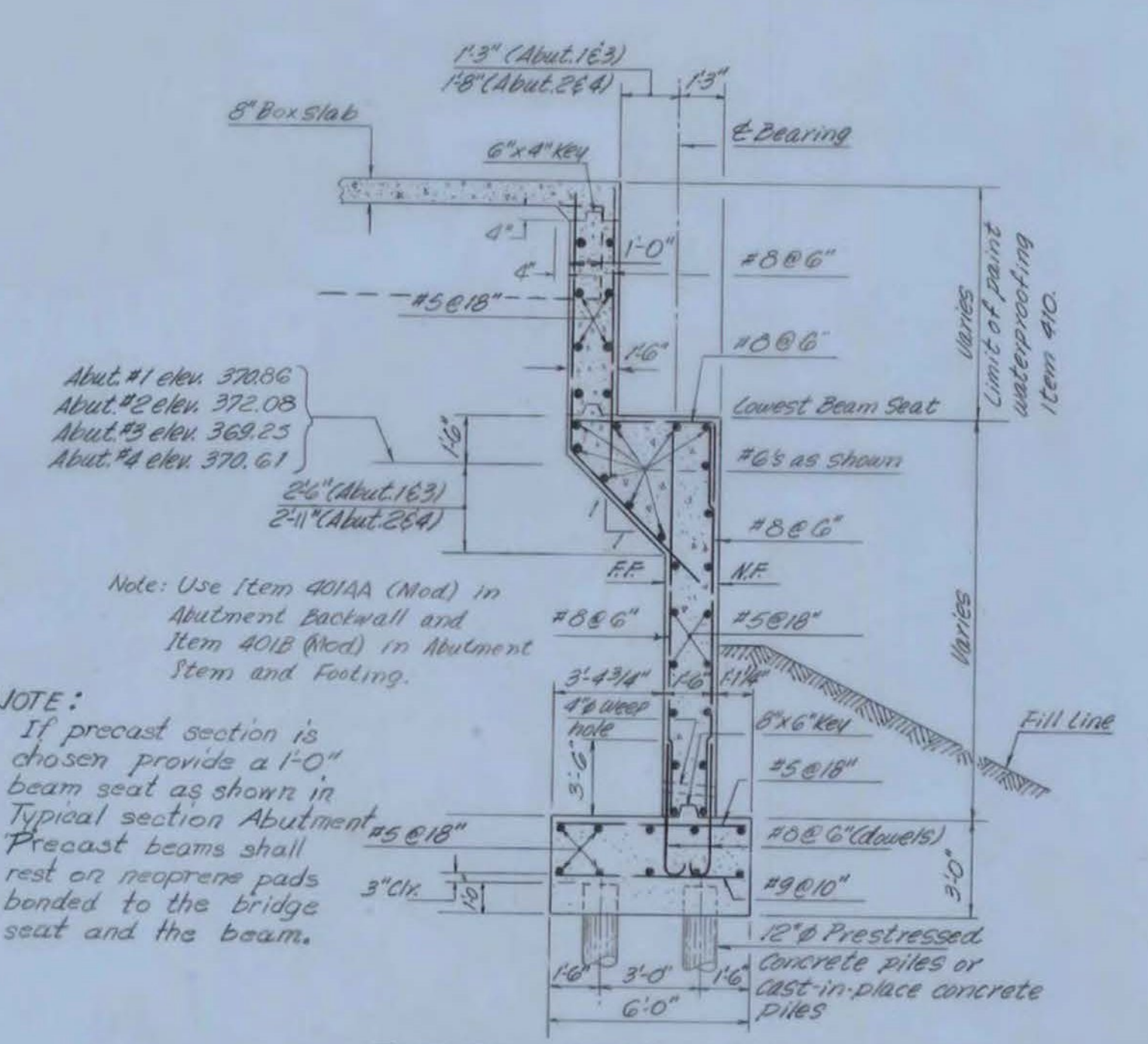
ABUTMENT NO. 4
Scale: 1/4" = 1'-0"



ELEVATION - ABUT. NO. 3-A
Scale: 1/4" = 1'-0"

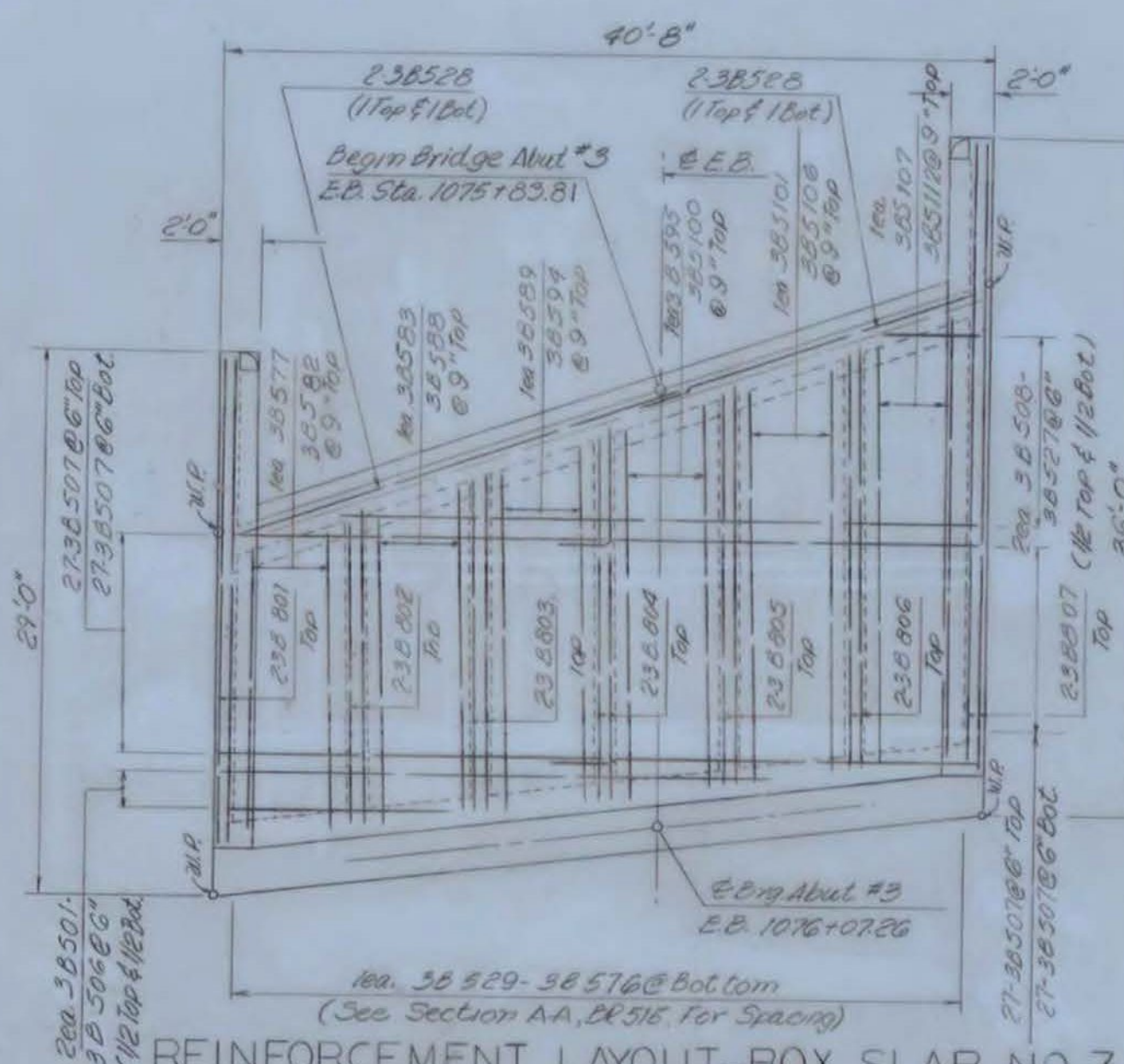


ELEVATION - ABUT. NO. 4-A
Scale: 1/4" = 1'-0"

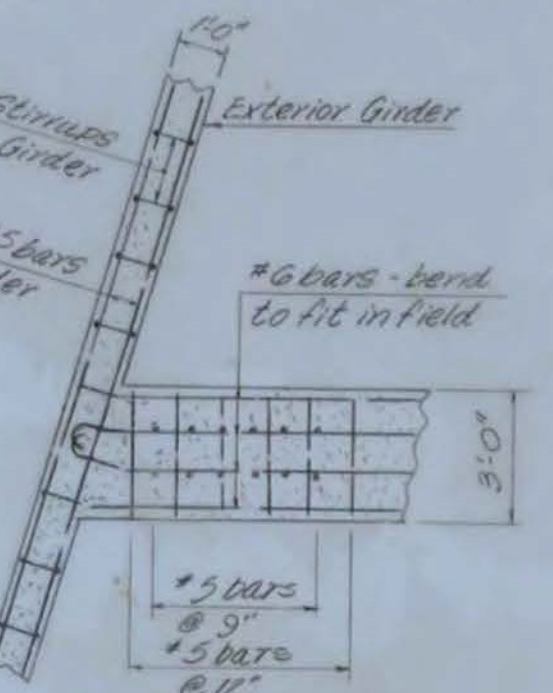


TYPICAL SECTION ABUTMENT
Scale: 1/4" = 1'-0"

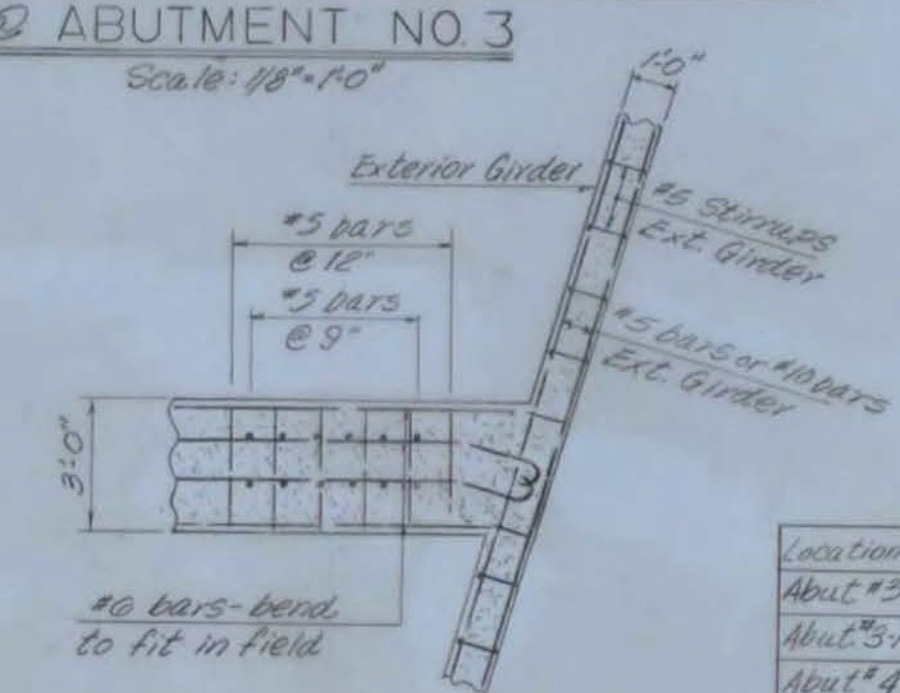
*NOTE:
If precast section is chosen provide a 1'-0" beam seat as shown in typical section Abutment. Precast beams shall rest on neoprene pads bonded to the bridge seat and the beam.



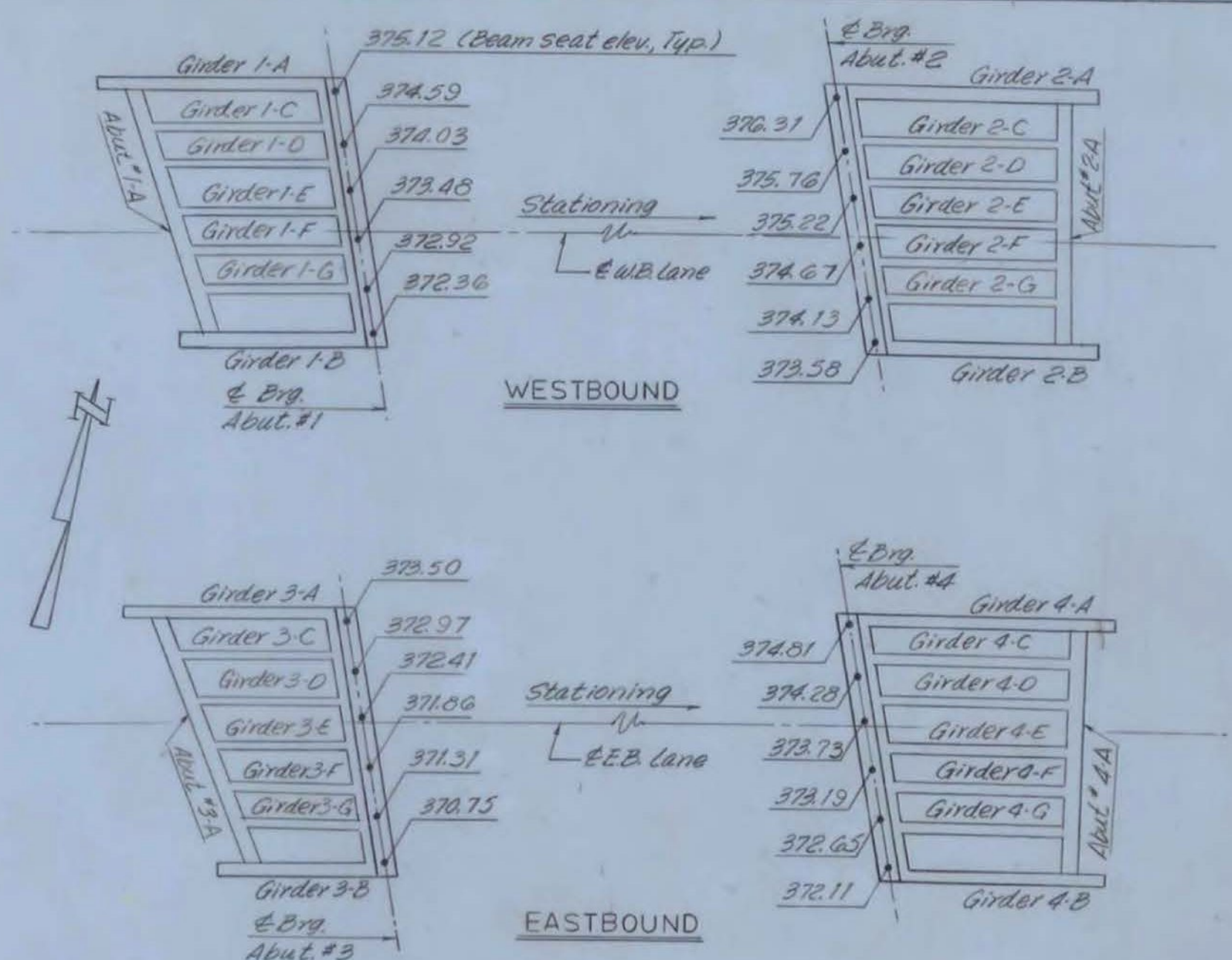
REINFORCEMENT LAYOUT-BOX SLAB NO. 3
@ ABUTMENT NO. 3
Scale: 1/8" = 1'-0"



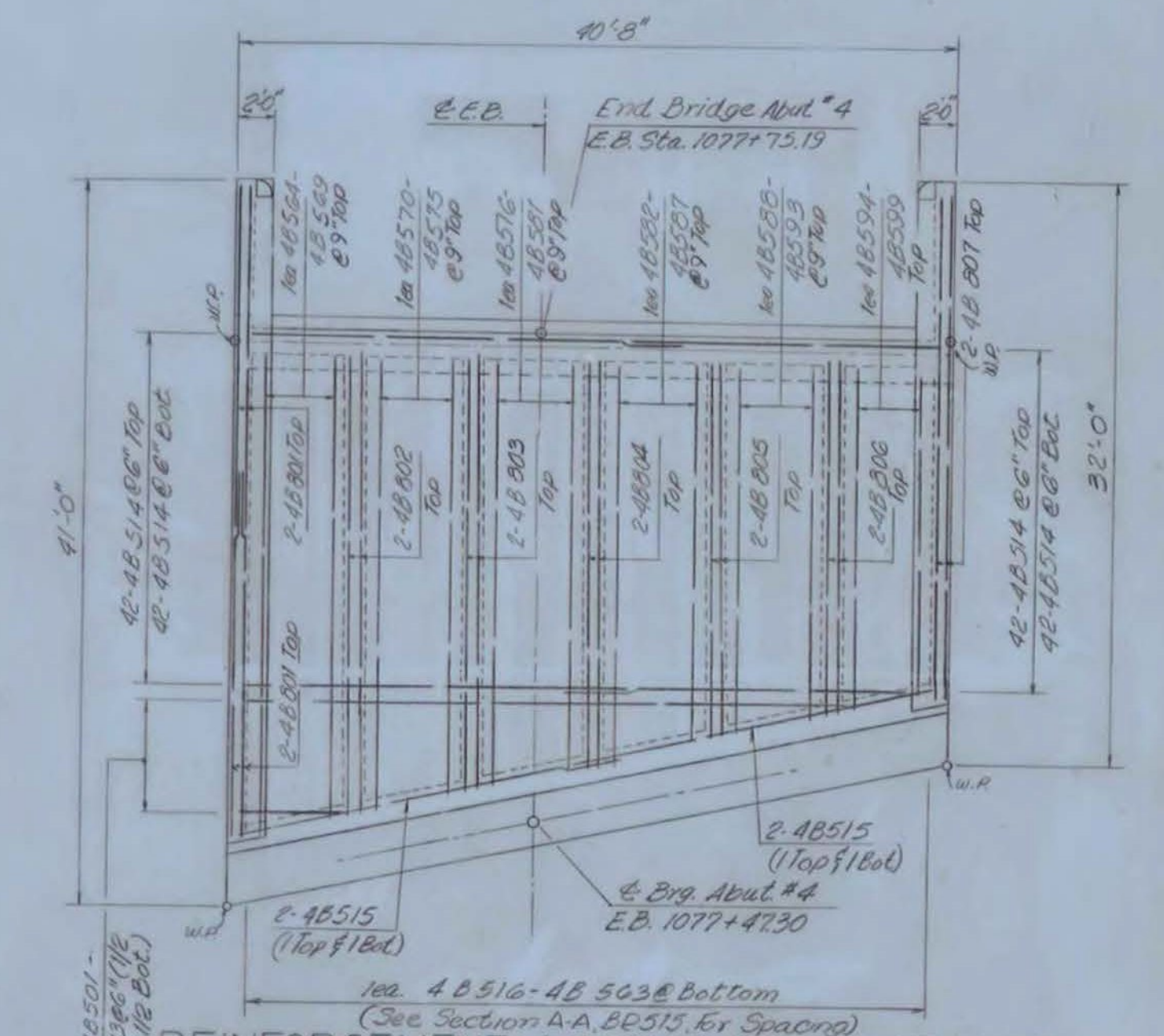
SECTION C-C
Scale: 1/4" = 1'-0"



SECTION D-D
Scale: 1/4" = 1'-0"



KEY PLAN
No Scale



REINFORCEMENT LAYOUT-BOX SLAB NO. 4
@ ABUTMENT NO. 4
Scale: 1/8" = 1'-0"

NOTES:

1. For General Notes, see BR 501.
2. For additional notes, see BR 511 & BR 515.

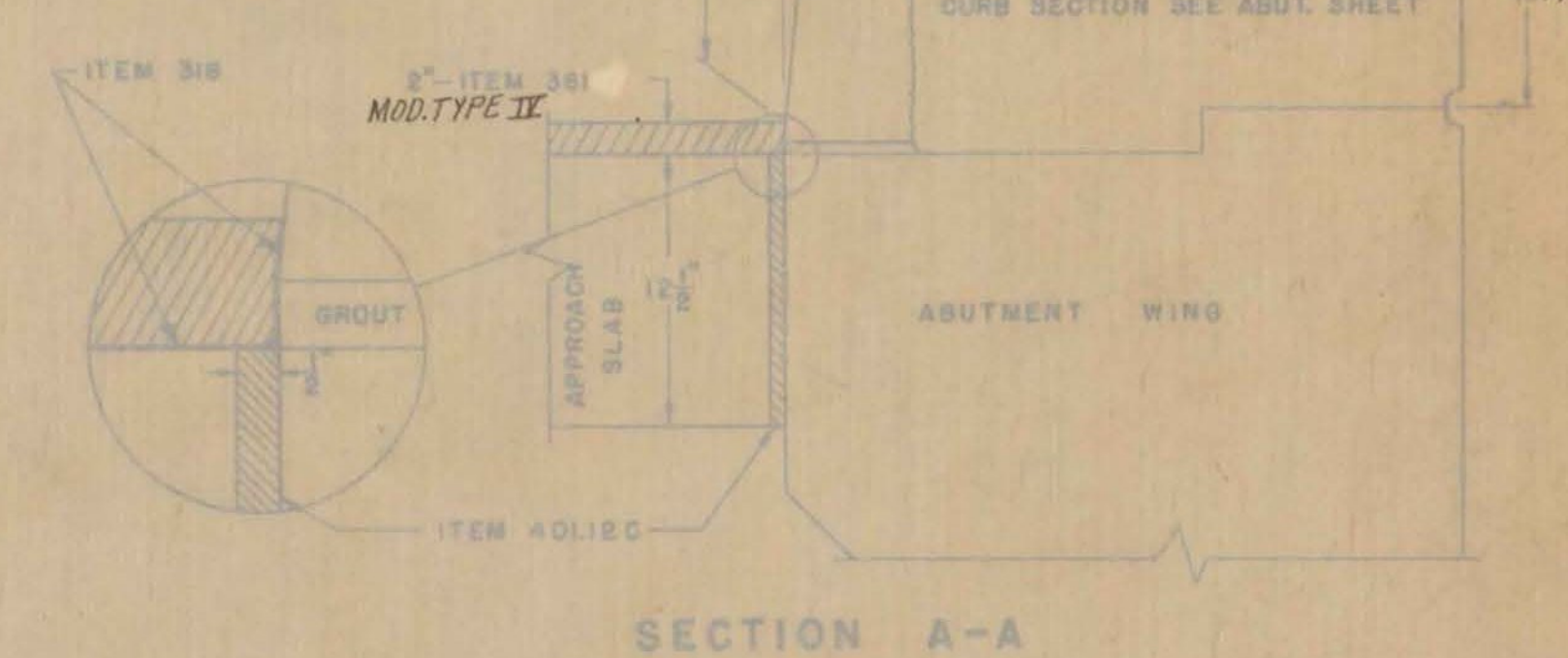
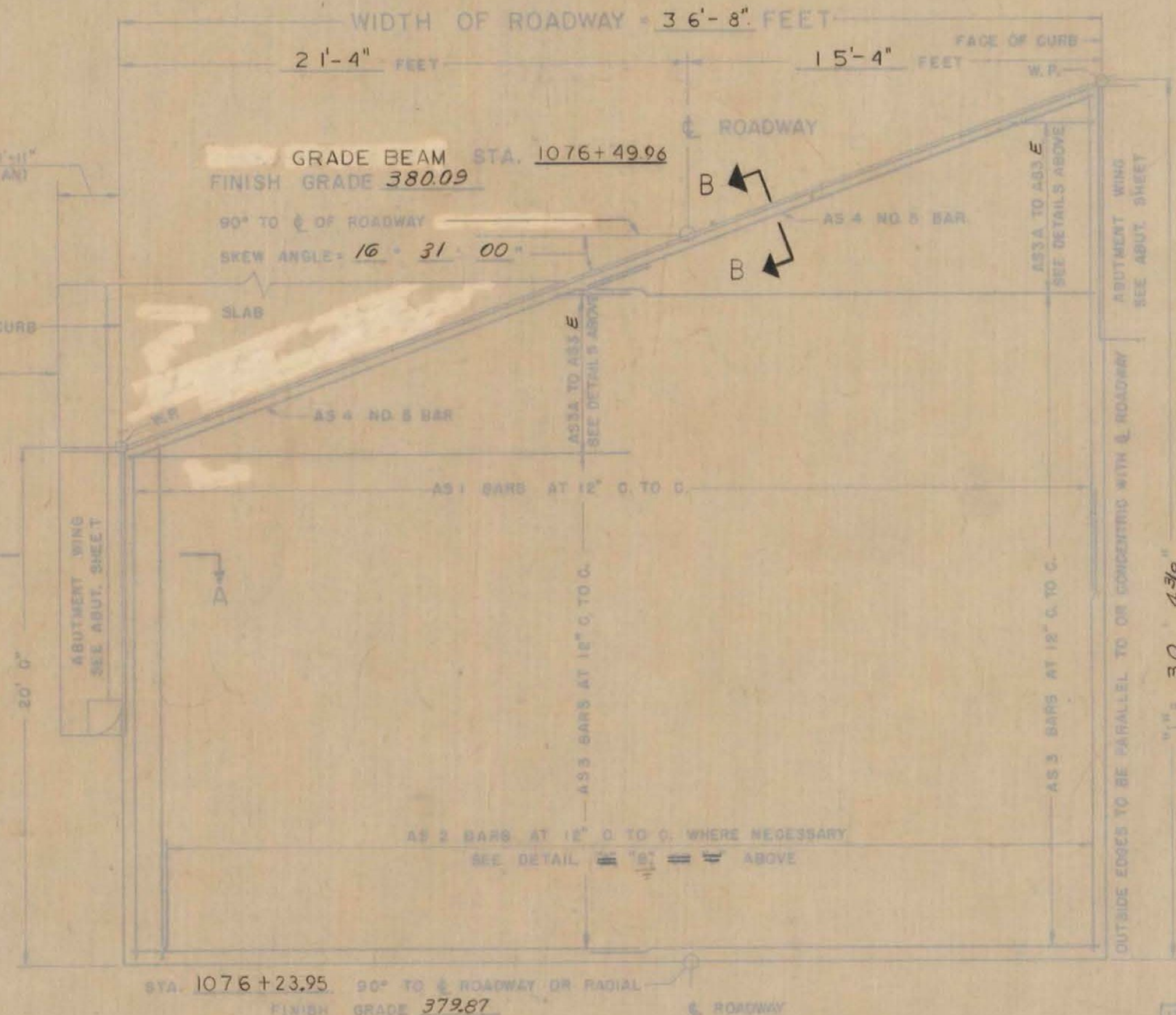
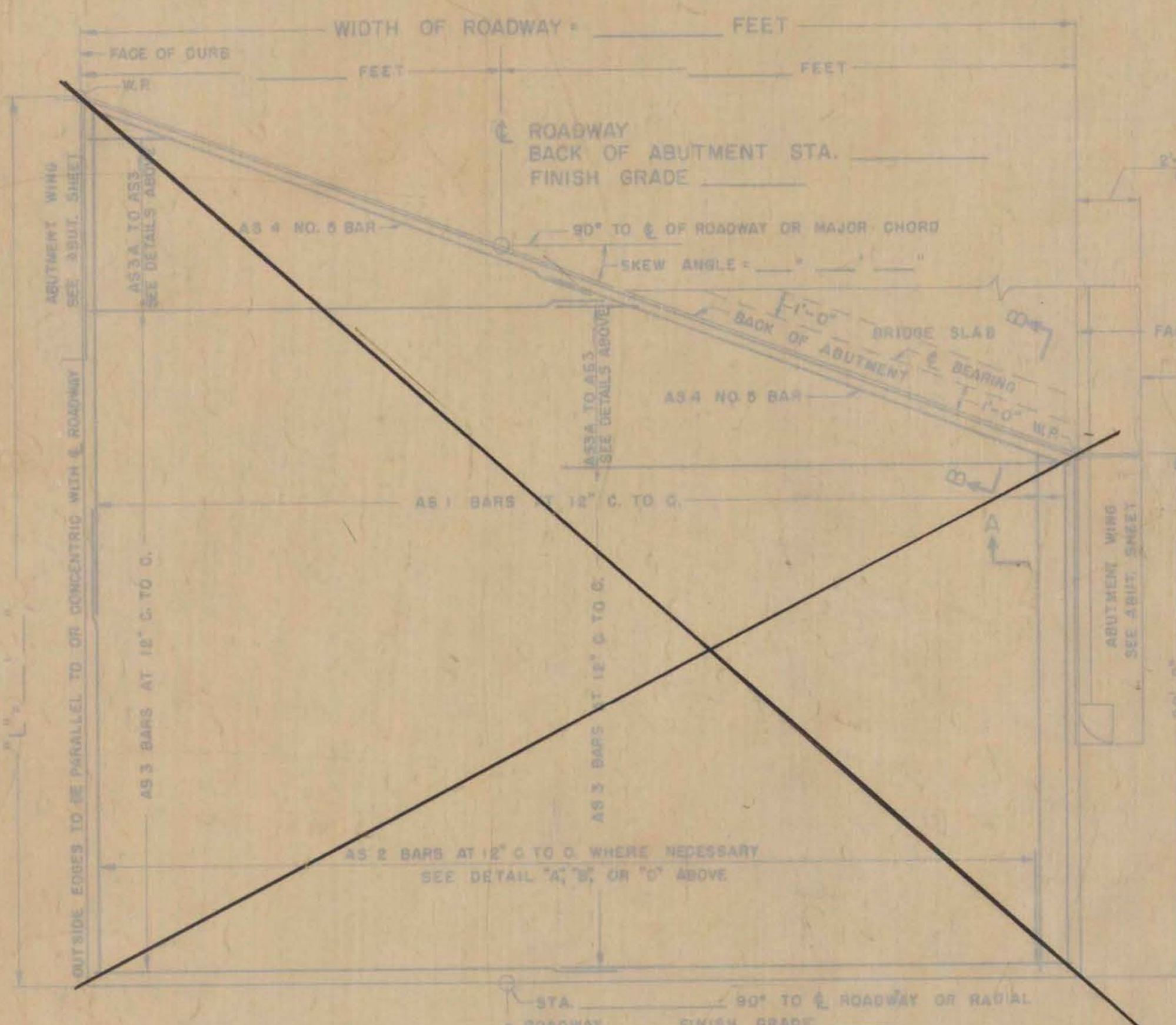
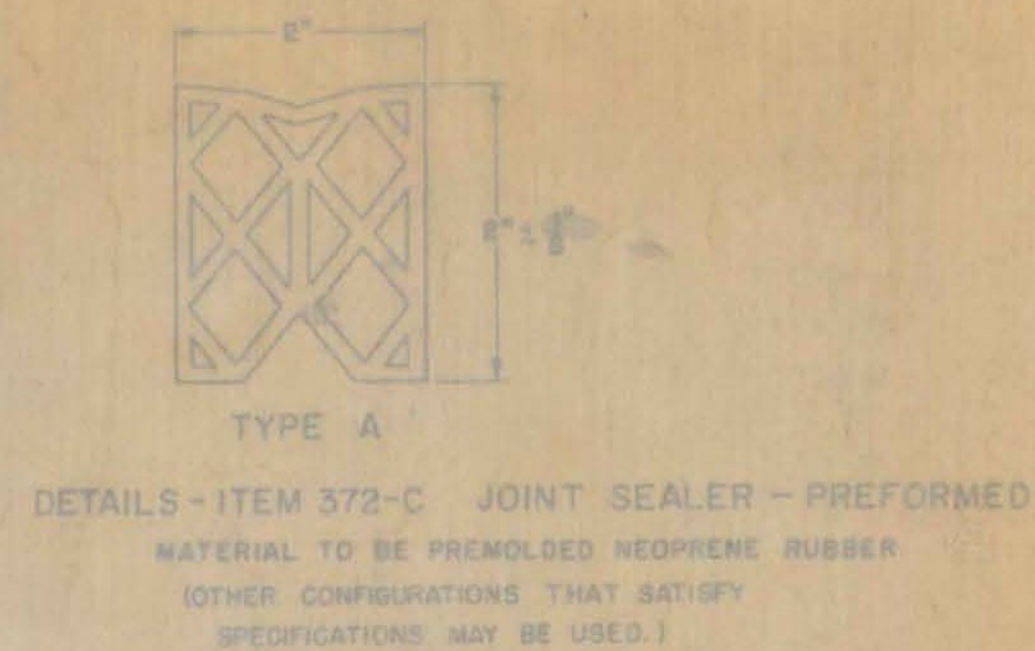
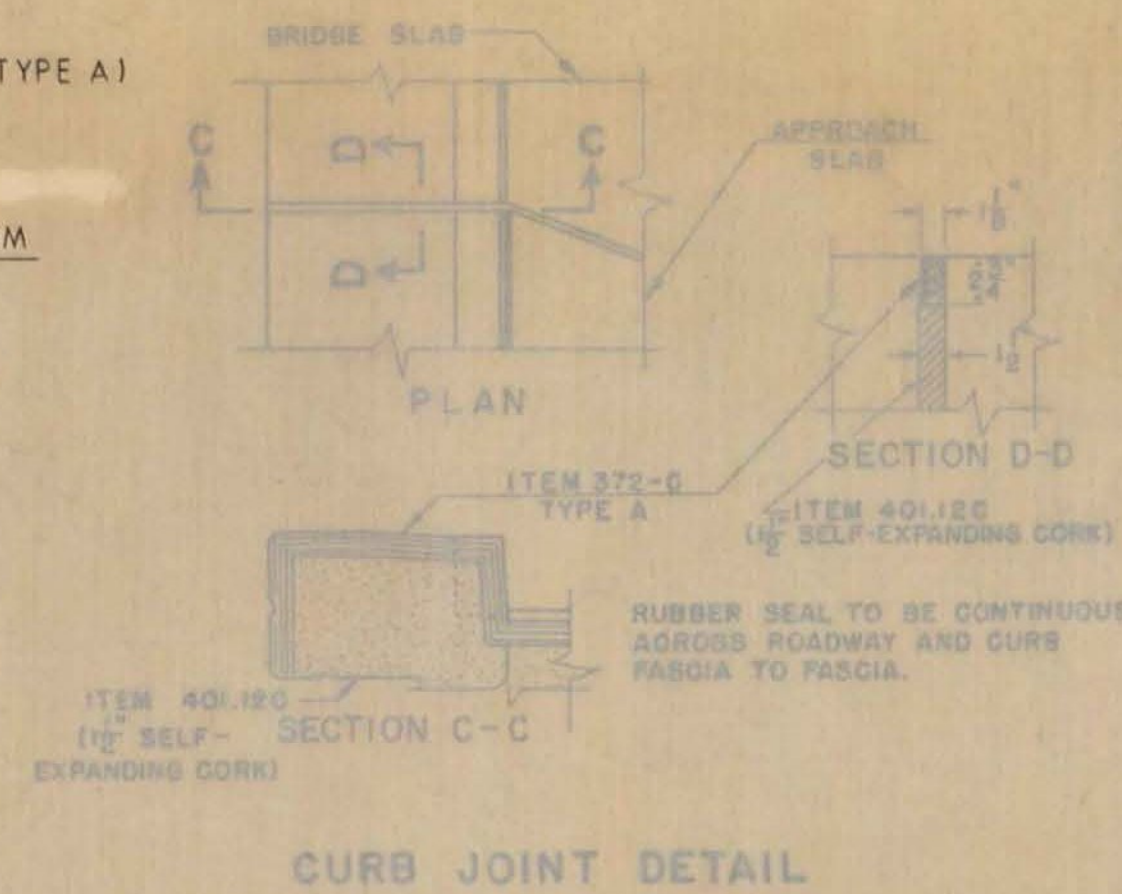
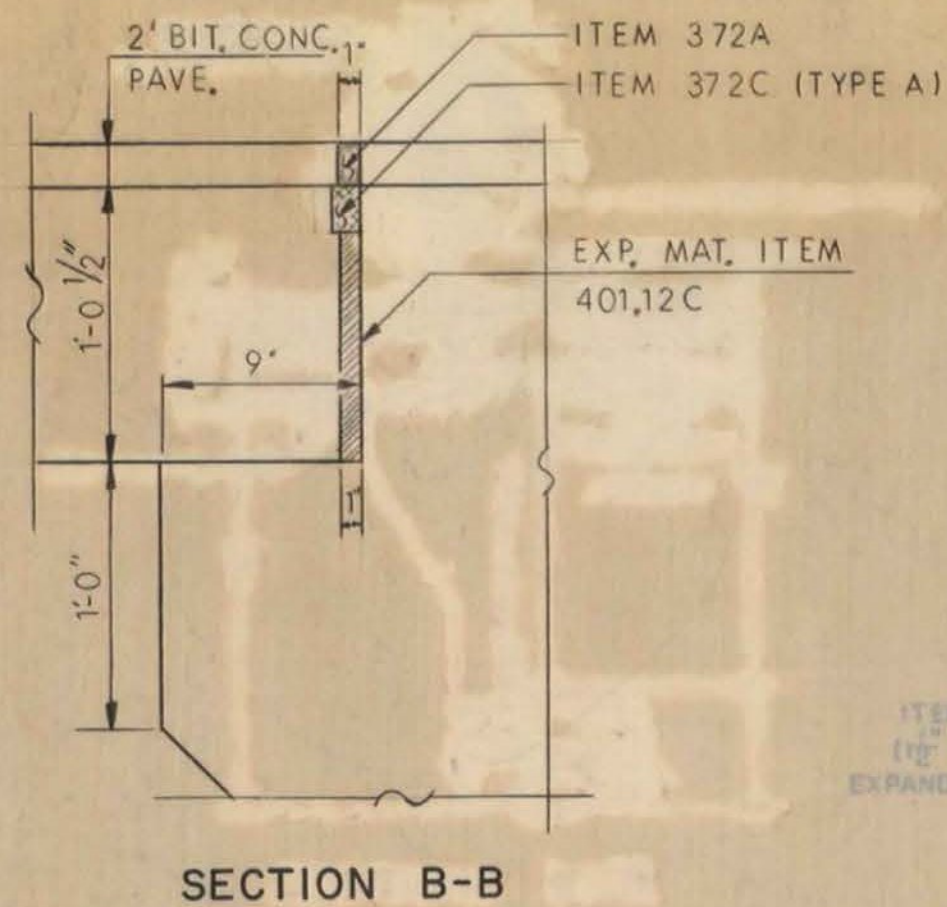
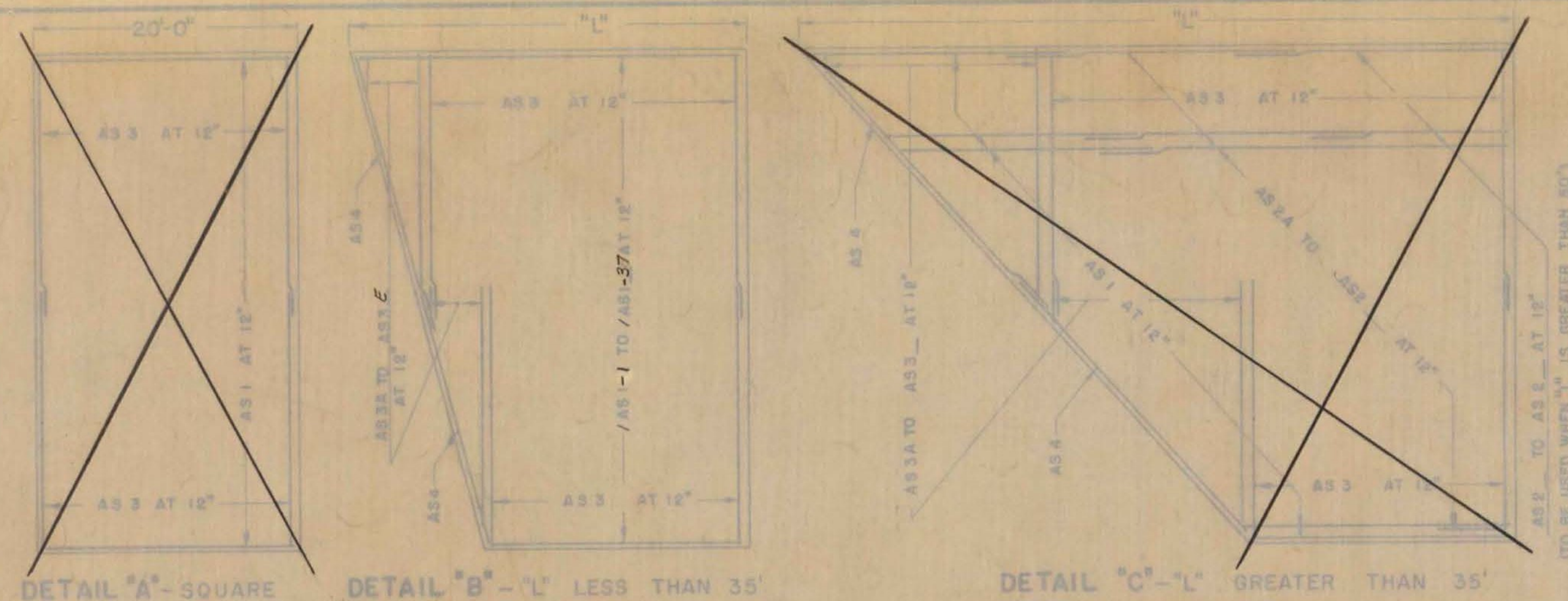
Location	Number of Piles	Size of Pile	Est. length of Piles
Abut. #3	20	12" Ø	140' to 160'
Abut. #3-A	7	12" Ø	135' to 175'
Abut. #4	20	12" Ø	135'
Abut. #4-A	7	12" Ø	200'

PILE TABLE

**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 23 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY**

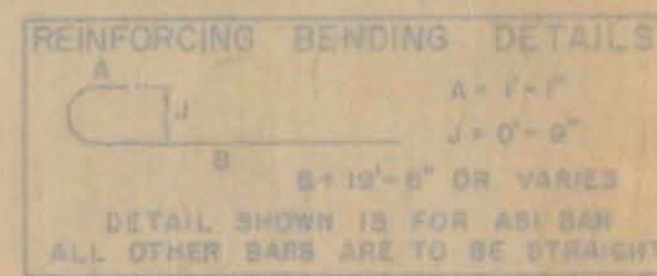
FOOTING DETAILS ABUTS. 3 & 4
DETAILS & TYPICAL SECTIONS

McFARLAND-JOHNSON
CONSULTING ENGINEERS
BINGHAMTON, NEW YORK
DESIGNED B.R.K. CHECKED B.R.K. DATE 5-23-68
DRAWN C.J.P. IN CHARGE H.G.C. SCALE AS NOTED
PROJECT NO. F020-1(4) SH 195 OF 532



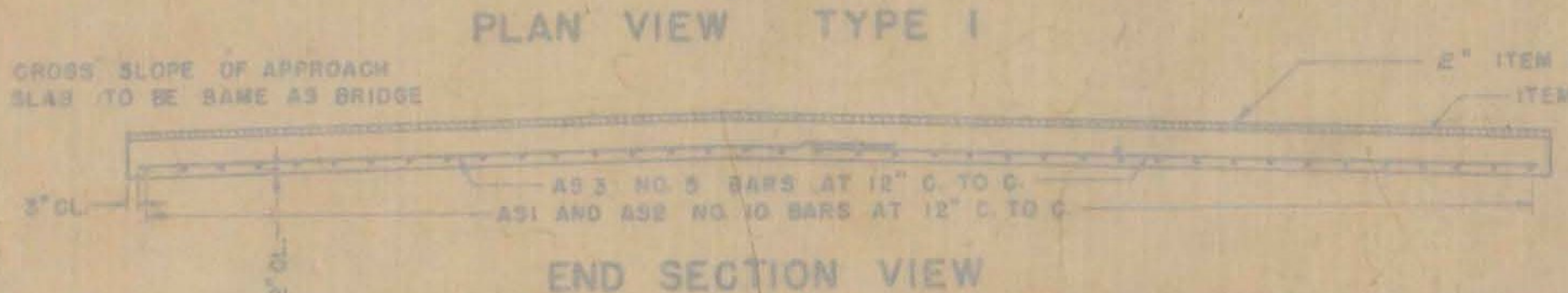
- GENERAL NOTES
1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR HS 20-44 LOADING.
 2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
 3. BITUMINOUS CONCRETE PAVEMENT VARIES FROM 2" AT BRIDGE END TO 3" AT ROADWAY END.

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 24 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY



LIST OF QUANTITIES

ITEM NO.	ITEM	UNIT
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.
361	BITUMINOUS CONCRETE PAVEMENT MOD. TYPE IV	TONS
372-A	JOINT SEALER - HOT POURED	L.F.
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.
401-B	CONCRETE CLASS B	CY.
402	REINFORCING STEEL	LB.



REVISIONS AND CORRECTIONS

1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED. 4/15/65 W.B.T.
2. DIMENSIONS OF JOINT SEALER TYPE B REVISED. 6/23/65 W.B.T.
3. JOINT BETWEEN CURB AND SLAB REVISED. BITUMINOUS CONCRETE REVISED TO 2". QUANTITY TOTALS REMOVED. 12/7/65 W.B.T.

DRAWN BY: W.B.T. Jan 1965

TRACED BY: W.B.T. Jan 1965

CHECKED BY: W.B.T. Feb 1965

RECOMMENDED FOR APPROVAL: [Signature] 2/16/65

RECOMMENDED FOR APPROVAL: [Signature] 2/16/65

APPROVED BY: [Signature] 2/16/65

DETAILS OF APPROACH SLAB FOR 36'-8" FOOT BRIDGE

TO BE USED FOR BRIDGE AT STATION 1077+50 W.B.

LOCATION U.S. RTE. 4 RELOCATION OVER VT. 22A RELOC.

(APPROACH SLAB NO. 1)

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE
SB-AS-65

PROJECT FAIR HAVEN

TOWN OF FAIR HAVEN

ROUTE NO. U.S. 4

U.S. RTE. 4 RELOCATION OVER VT. 22A RELOC.

APPROACH SLAB NO. 1

NOT TO SCALE

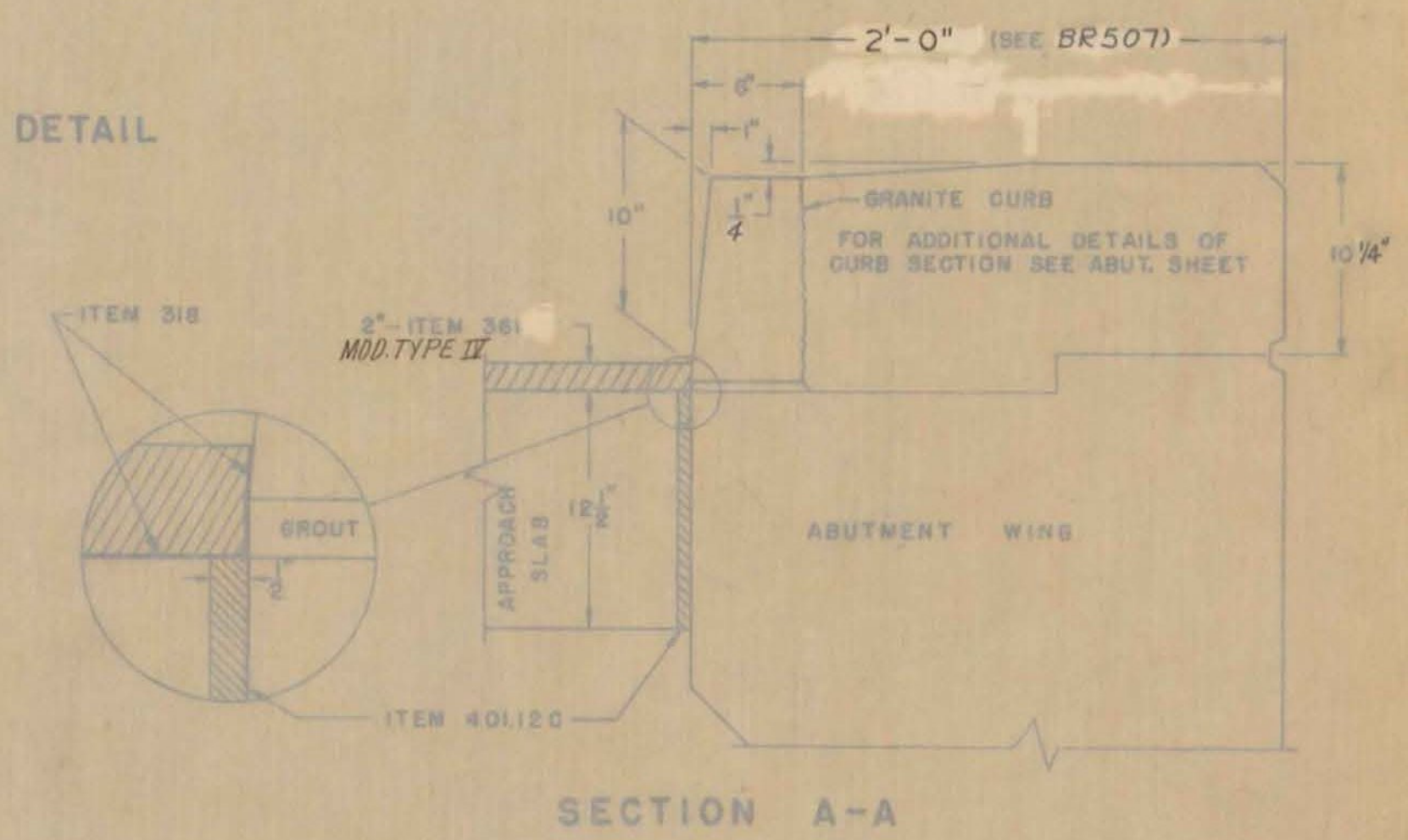
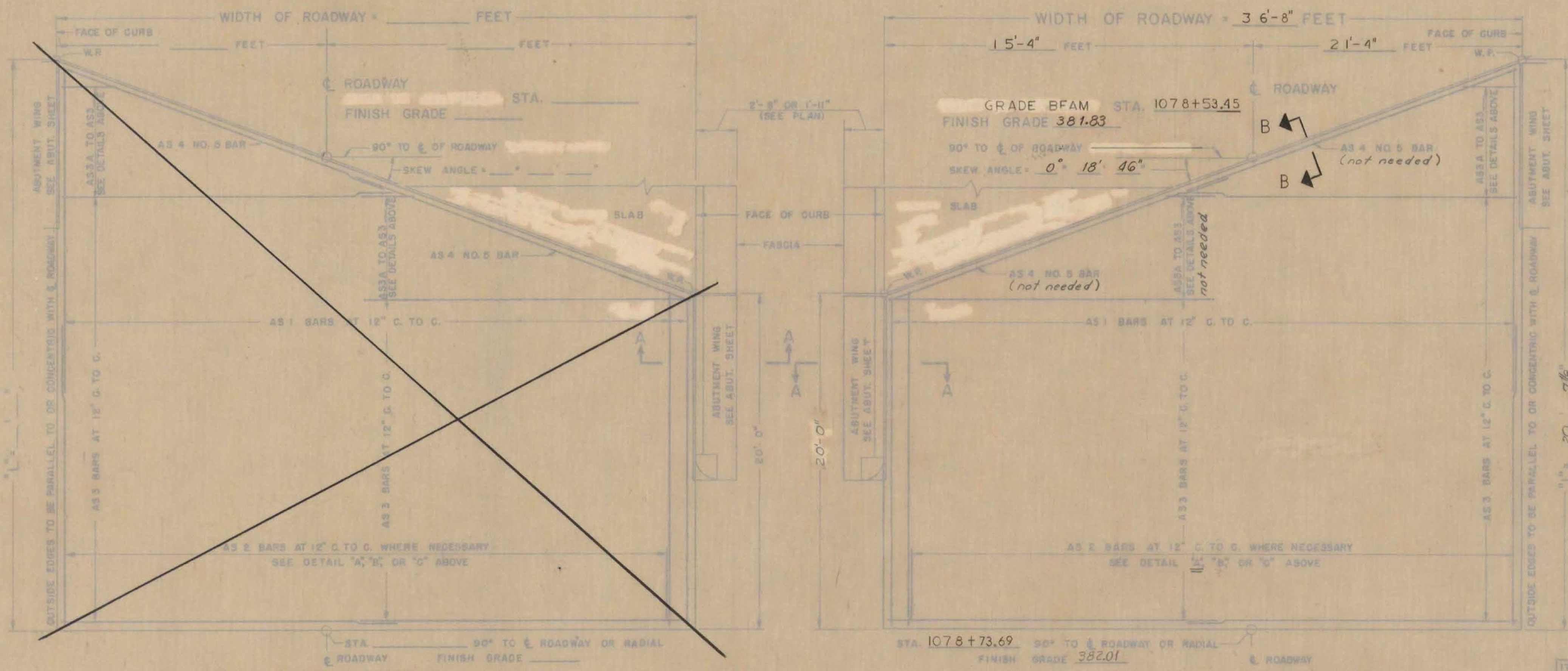
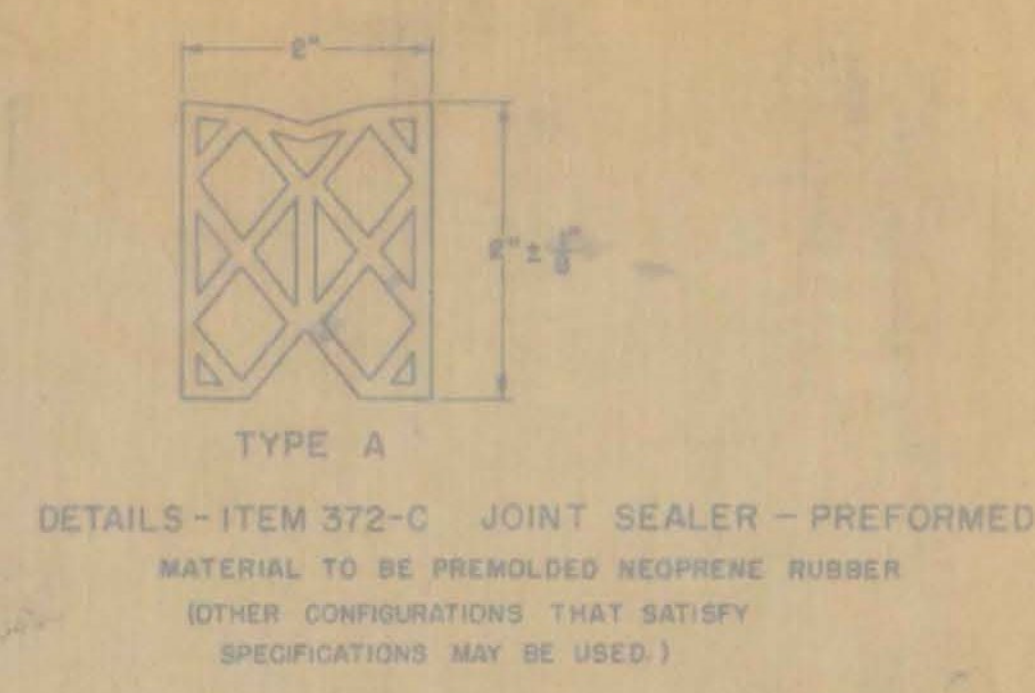
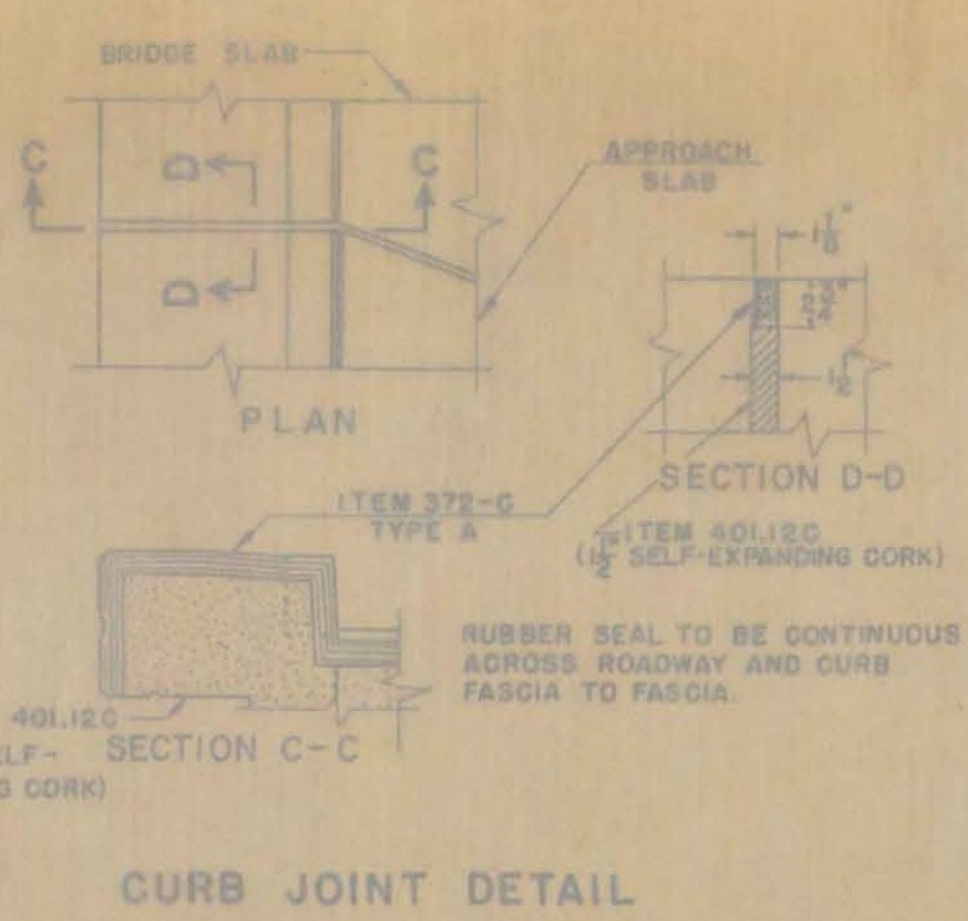
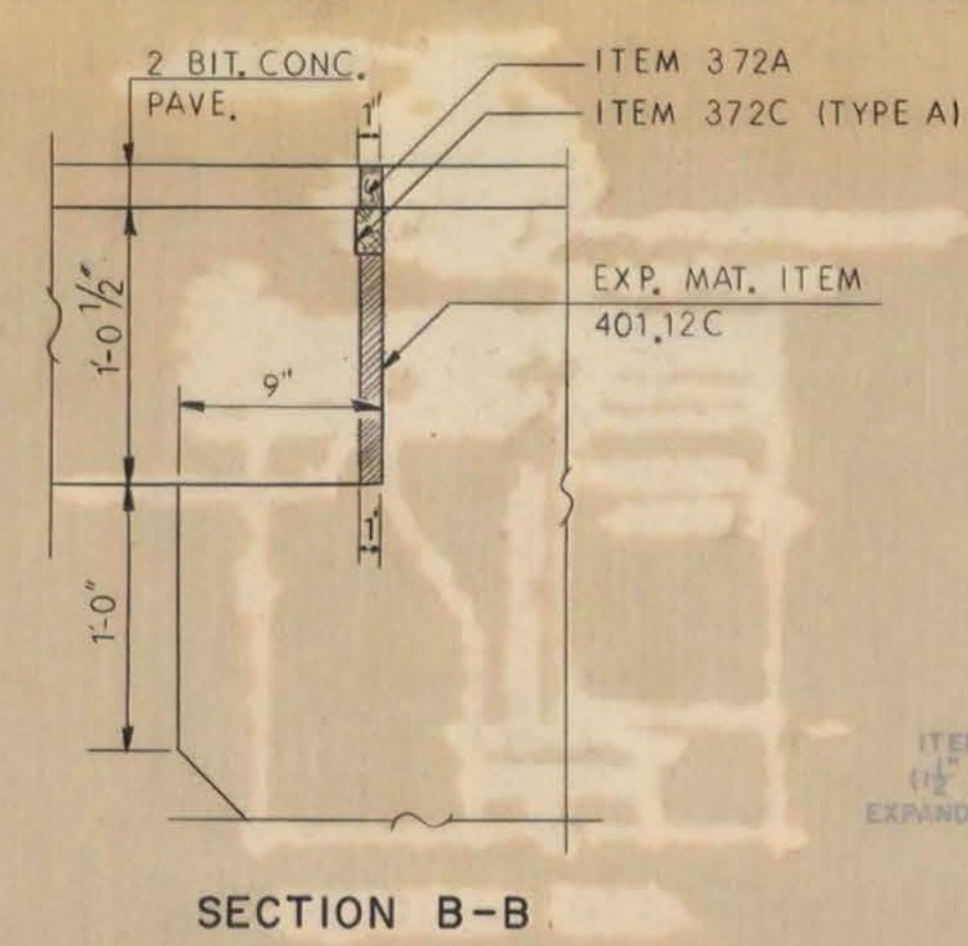
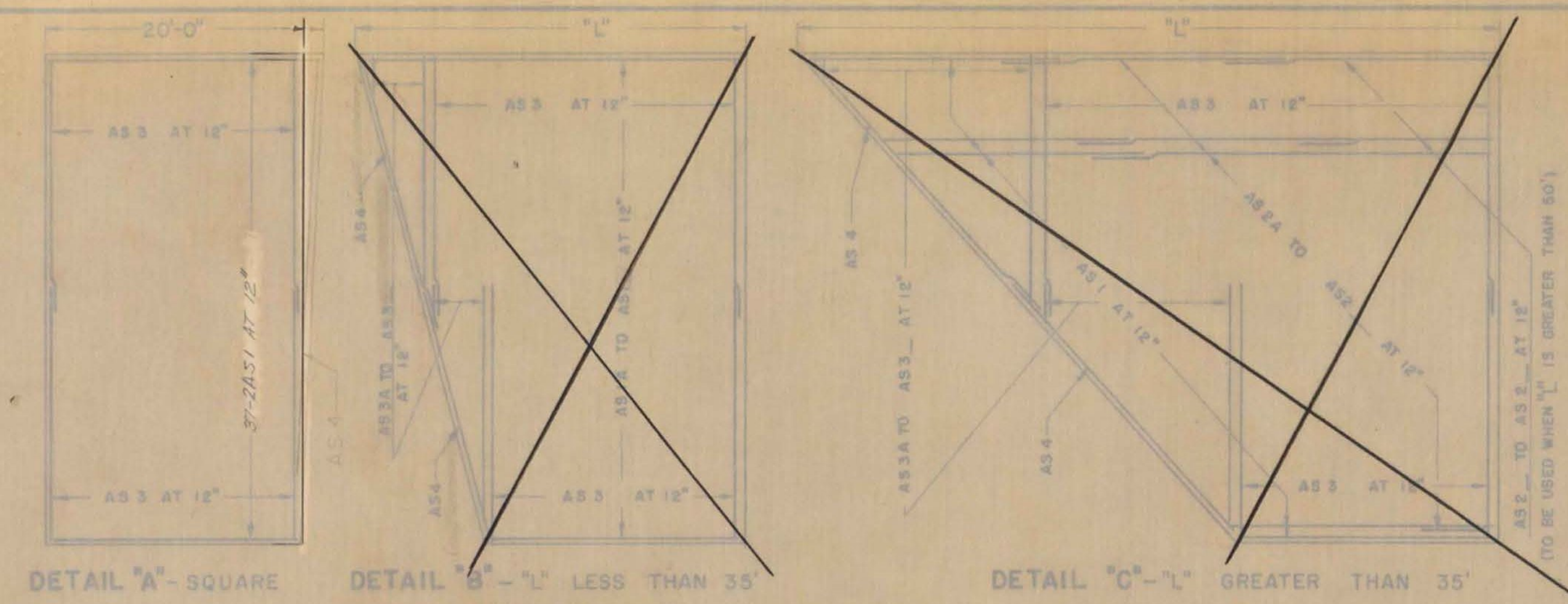
IN CHARGE H.G.C.

DESIGNED BY A.M.D. CHECKED BY R.E.C.

PROJECT NO. FO20-1 (8)

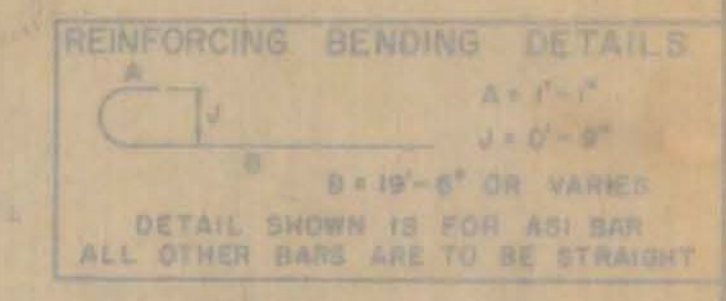
SHEET 106 OF 255

CONTRACT NO. BR 517



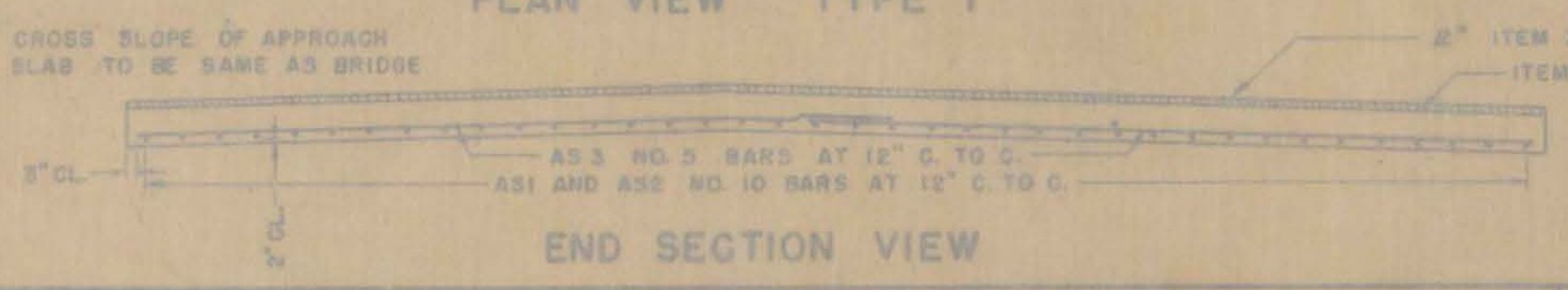
- GENERAL NOTES
1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR HS 20-44 LOADING.
 2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
 3. BITUMINOUS CONCRETE PAVEMENT VARIES FROM 2" AT BRIDGE END TO 3" AT ROADWAY END.

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 25 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY



LIST OF QUANTITIES

ITEM NO.	ITEM	UNIT
318	TAR EMULSION FOR BRIDGE FLOORS	BAL.
361	BITUMINOUS CONCRETE PAVEMENT MOD. TYPE IV	TONS
372-A	JOINT SEALER - HOT POURED	L.F.
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.
401-B	CONCRETE CLASS B	CY.
402	REINFORCING STEEL	LB.



REVISIONS AND CORRECTIONS

1. DIMENSIONS OF JOINT SEALER TYPE A REVISED. 4/19/65 W.B.T.

2. DIMENSIONS OF JOINT SEALER TYPE B REVISED. 6/23/65 W.B.T.

3. JOINT BETWEEN CURB AND SLAB REVISED, BITUMINOUS CONCRETE REVISED TO 2". QUANTITY TOTALS REMOVED. 12/7/65 W.B.T.

DRAWN BY: W.B.T. Jan. 1965

TRACED BY: W.B.T. Jan. 1965

CHECKED BY: W.M.S. Feb. 1965

RECOMMENDED FOR APPROVAL: [Signature] 2/4/65

RECOMMENDED FOR APPROVAL: [Signature] 2/4/65

APPROVED BY: [Signature] 2/4/65

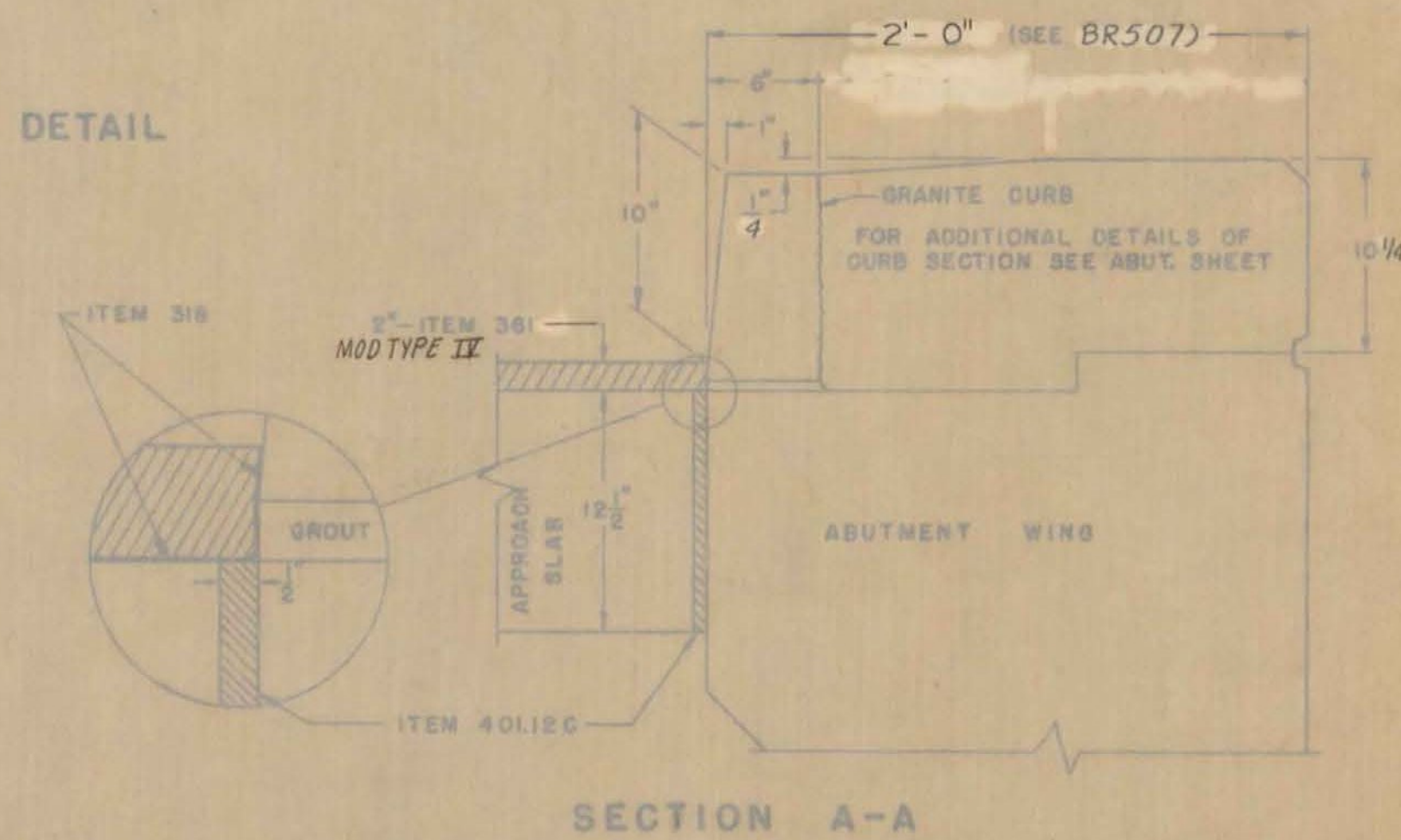
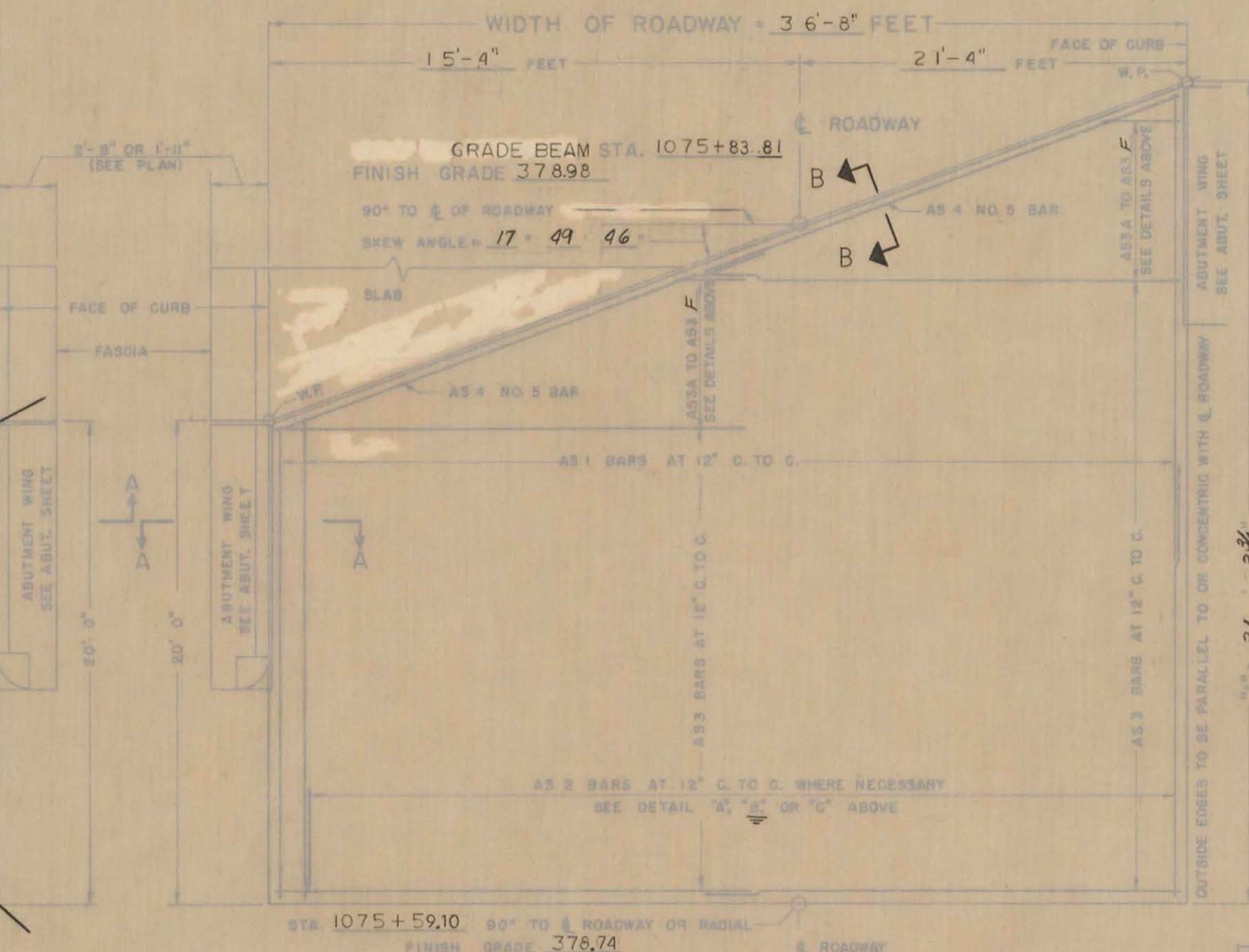
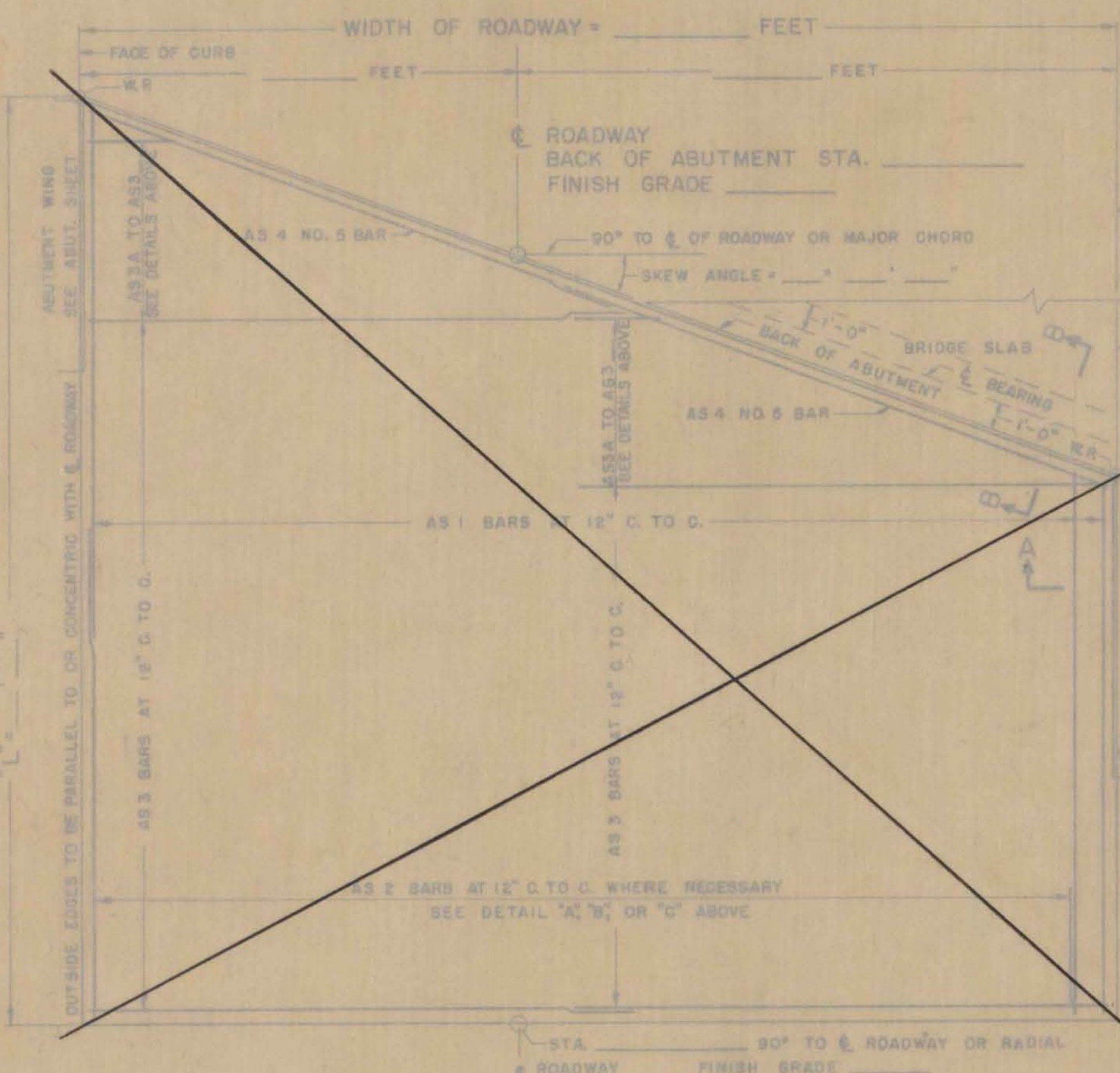
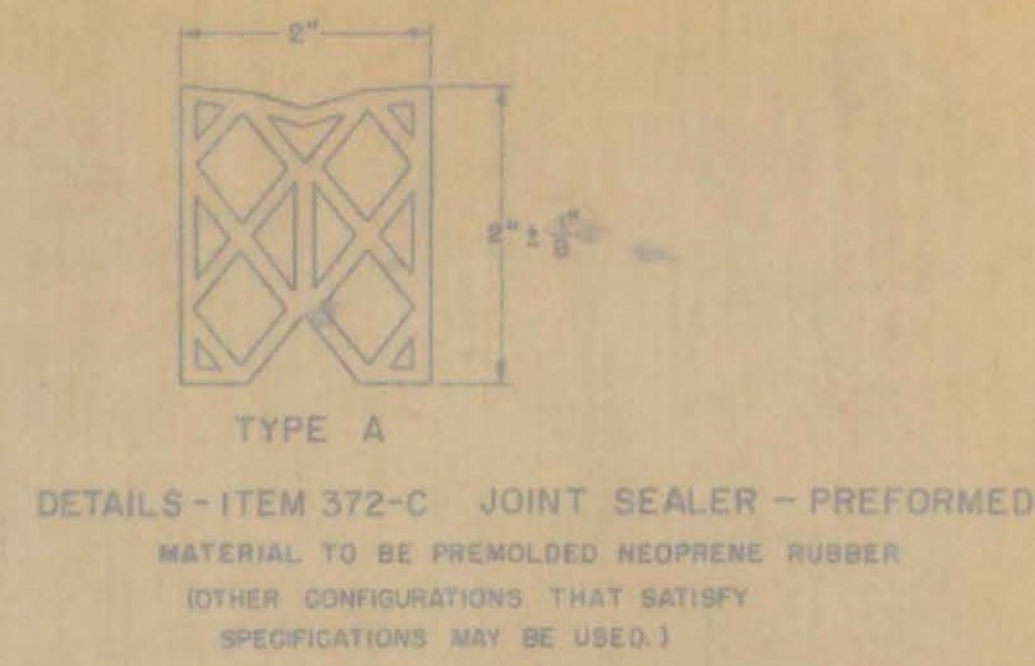
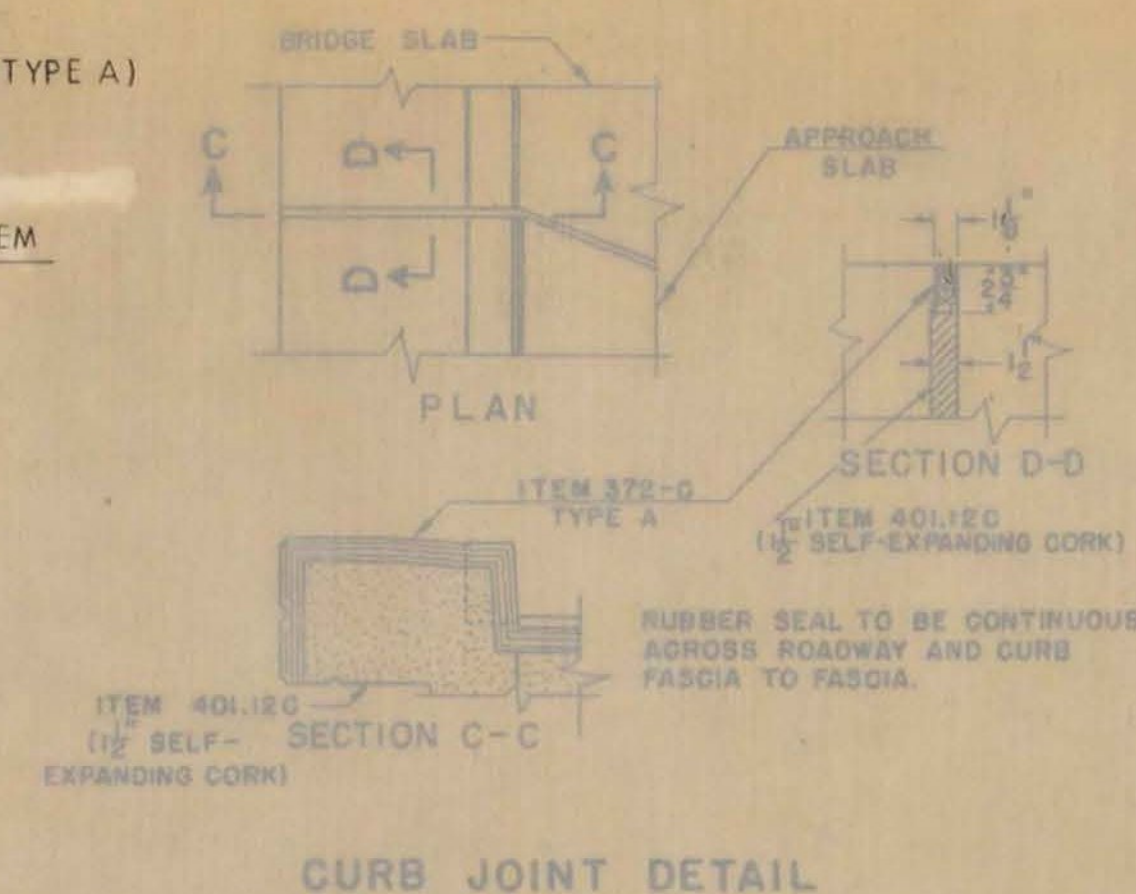
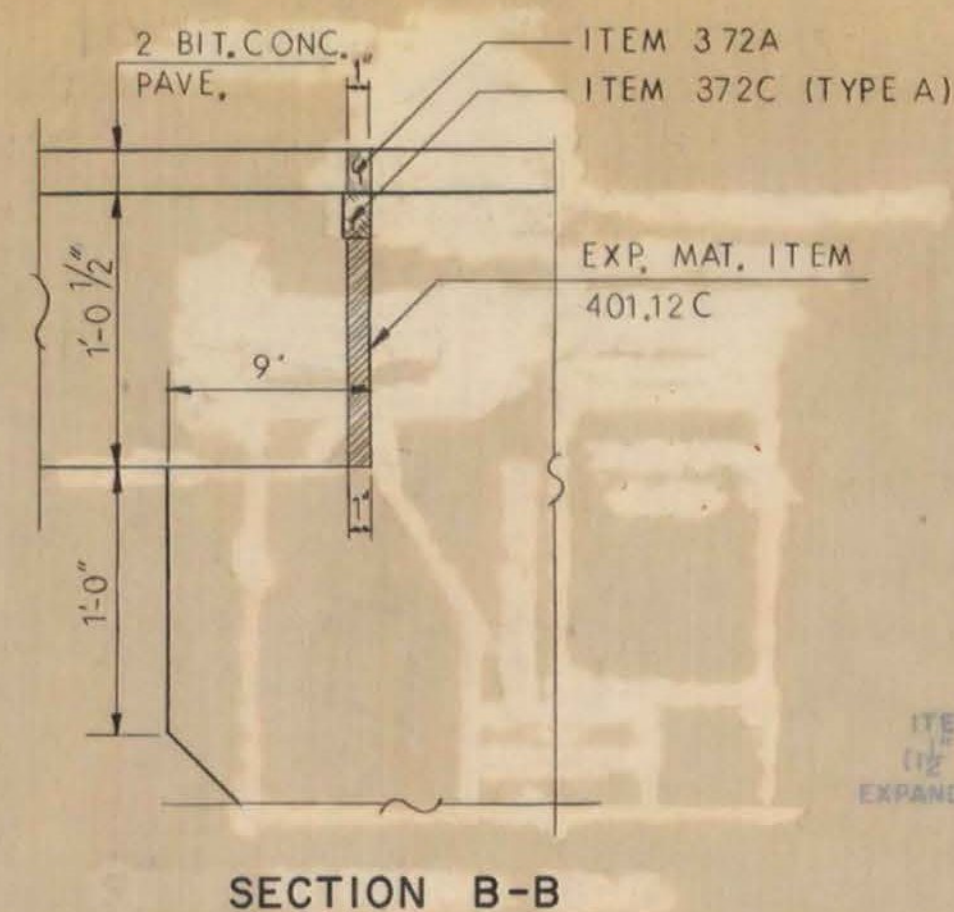
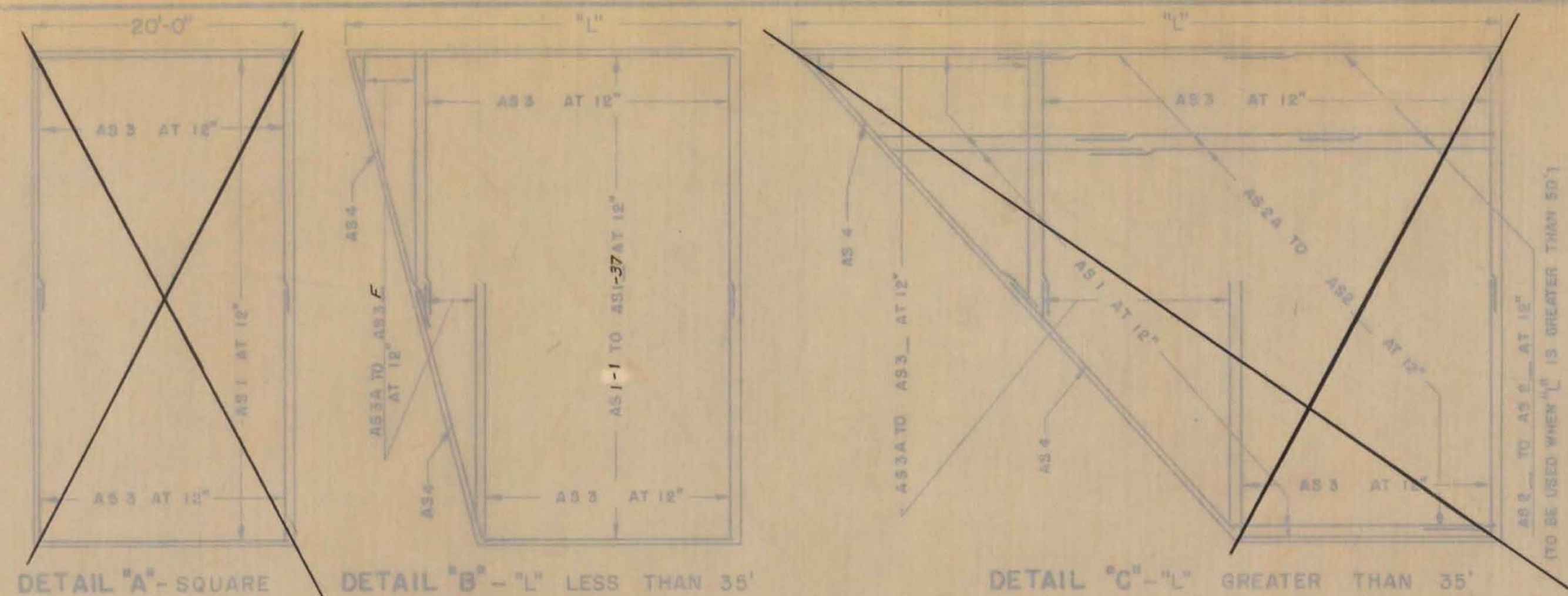
DETAILS OF APPROACH SLAB FOR 36'-8" FOOT BRIDGE

TO BE USED FOR BRIDGE AT STATION 1077+50 W.B.

LOCATION U.S. RTE. 4 RELOCATION OVER VT. 22A RELOC. (APPROACH SLAB NO. 2)

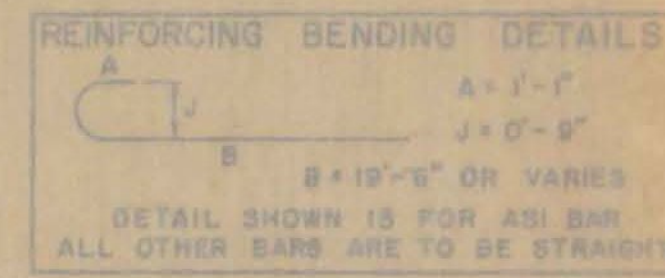
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE
SB-AS-65

PROJECT FAIR HAVEN
TOWN OF FAIR HAVEN
ROUTE NO. U.S. 4
U.S. RTE. 4 RELOCATION OVER VT. 22A RELOC.
APPROACH SLAB NO. 2
NOT TO SCALE
IN CHARGE H.G.C.
DESIGNED BY A.M.D. CHECKED BY R.E.C.
PROJECT NO. F020-1 (8)
SHEET 197 OF 186
CONTRACT NO. BR 518



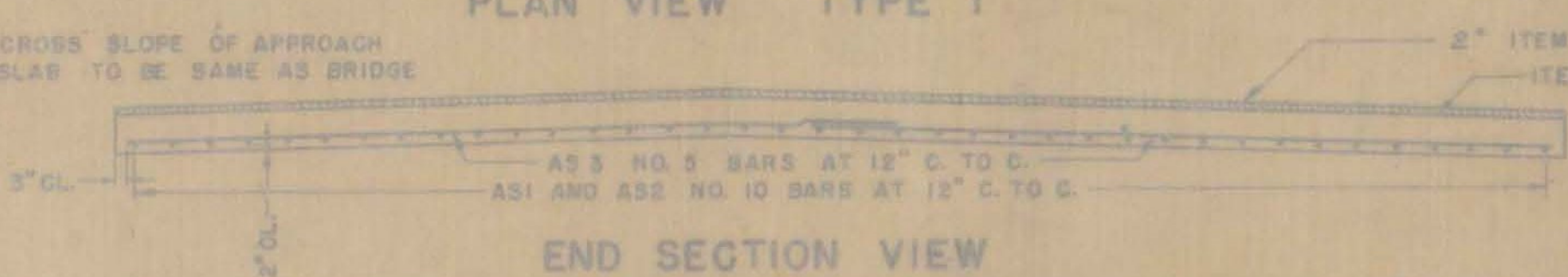
- GENERAL NOTES
1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961, DESIGNED FOR HB 20-44 LOADING.
 2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
 3. BITUMINOUS CONCRETE PAVEMENT VARIES FROM 2" AT BRIDGE END TO 3" AT ROADWAY END.

**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 26 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY**



LIST OF QUANTITIES

ITEM NO.	ITEM	UNIT
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.
381	BITUMINOUS CONCRETE PAVEMENT MOD. TYPE IV	TONS
372-A	JOINT SEALER - HOT ROURED	L.F.
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.
401-B	CONCRETE CLASS B	CY.
402	REINFORCING STEEL	L.B.



REVISIONS AND CORRECTIONS

1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED. 4/10/88 W.B.T.
2. DIMENSIONS OF JOINT SEALER TYPE B REVISED. 8/23/89 W.B.T.
3. JOINT BETWEEN CURB AND SLAB REVISED, BITUMINOUS CONCRETE REVISED TO 2". QUANTITY TOTALS REMOVED. 12/7/89. W.B.T.

DRAWN BY: *W.B.T. Jan 1988*

TRACED BY: *W.B.T. Jan 1988*

CHECKED BY: *W.B.T. Feb 1988*

RECOMMENDED FOR APPROVAL: *[Signature]* DATE: *2/1/88*

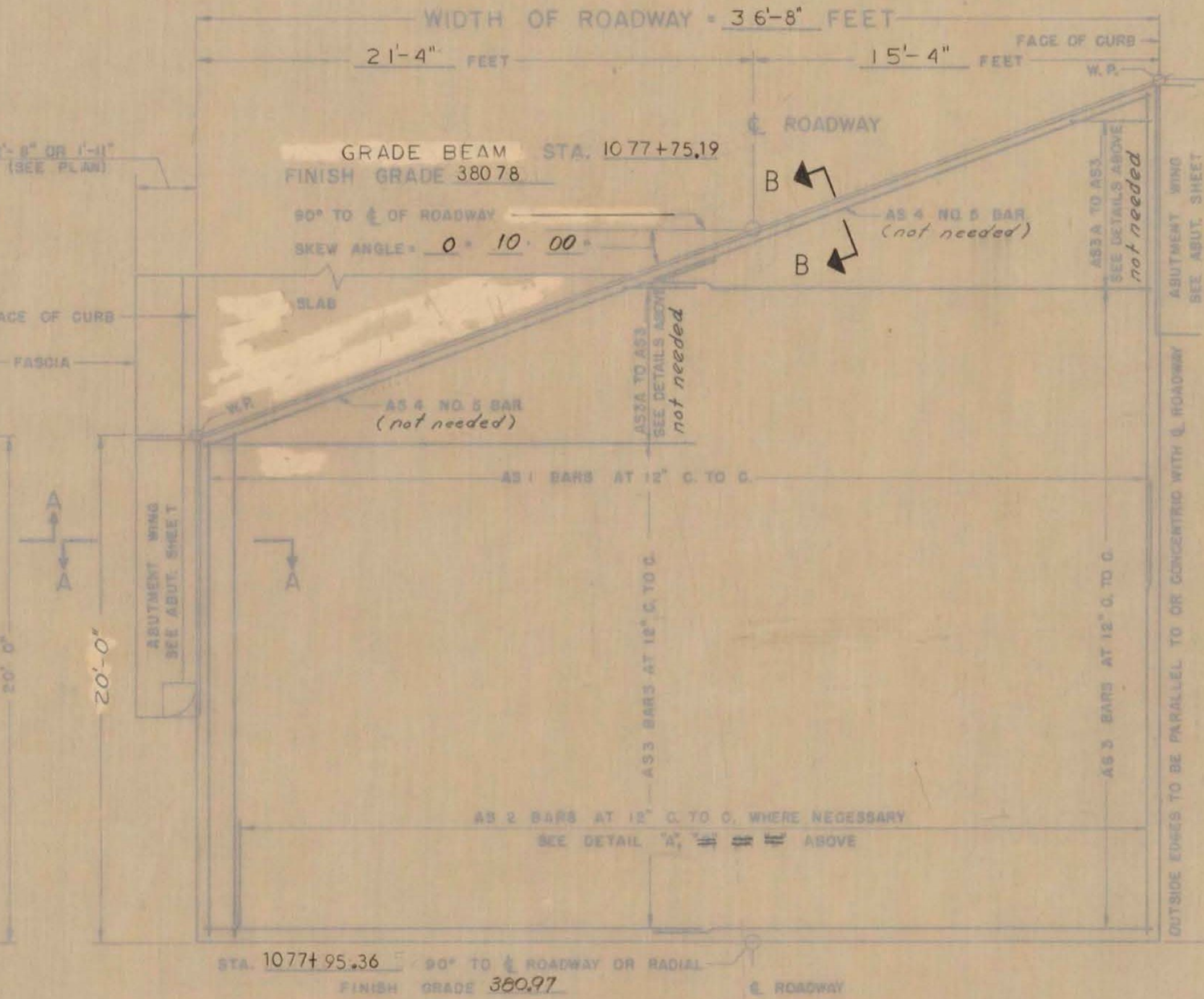
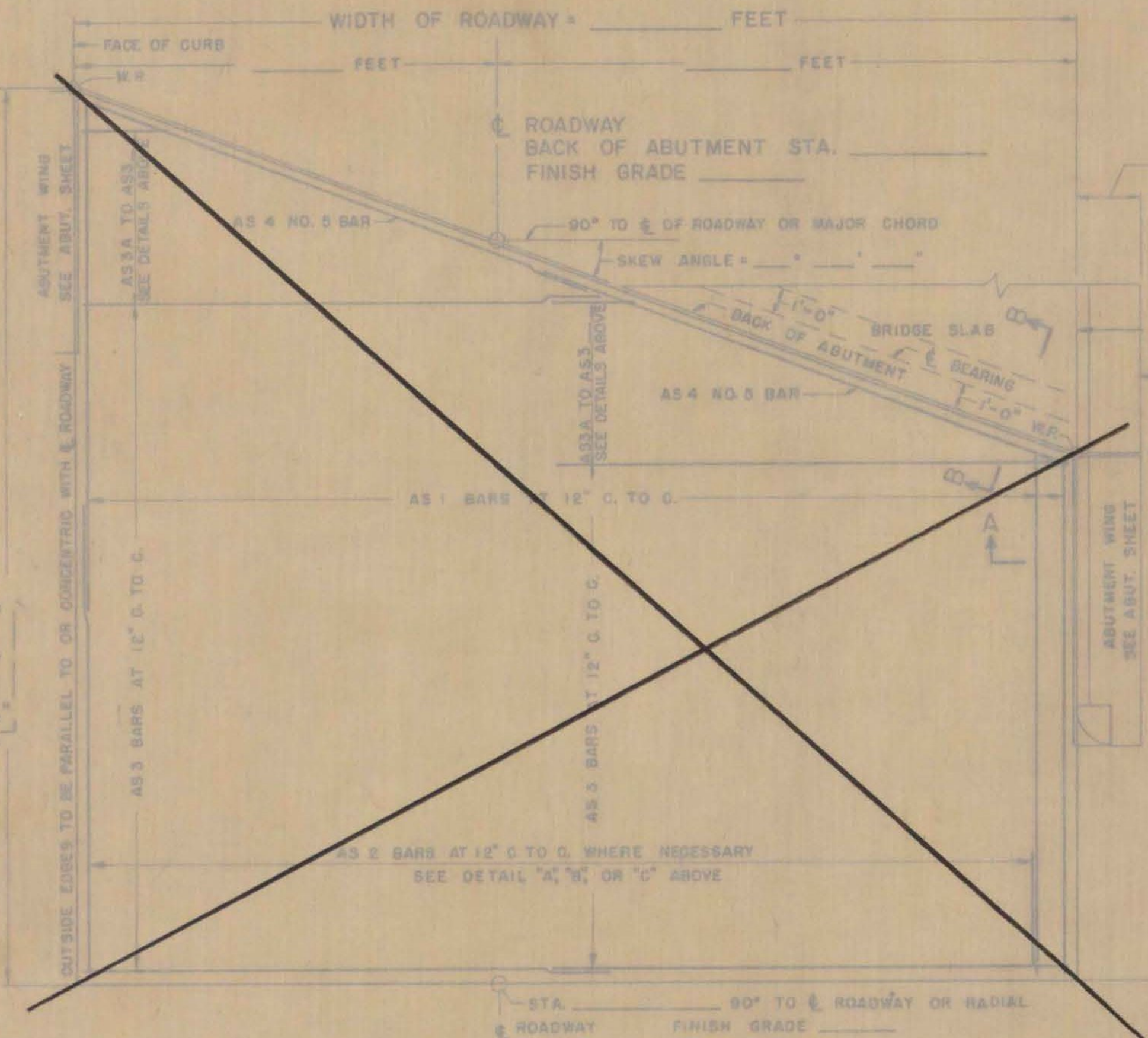
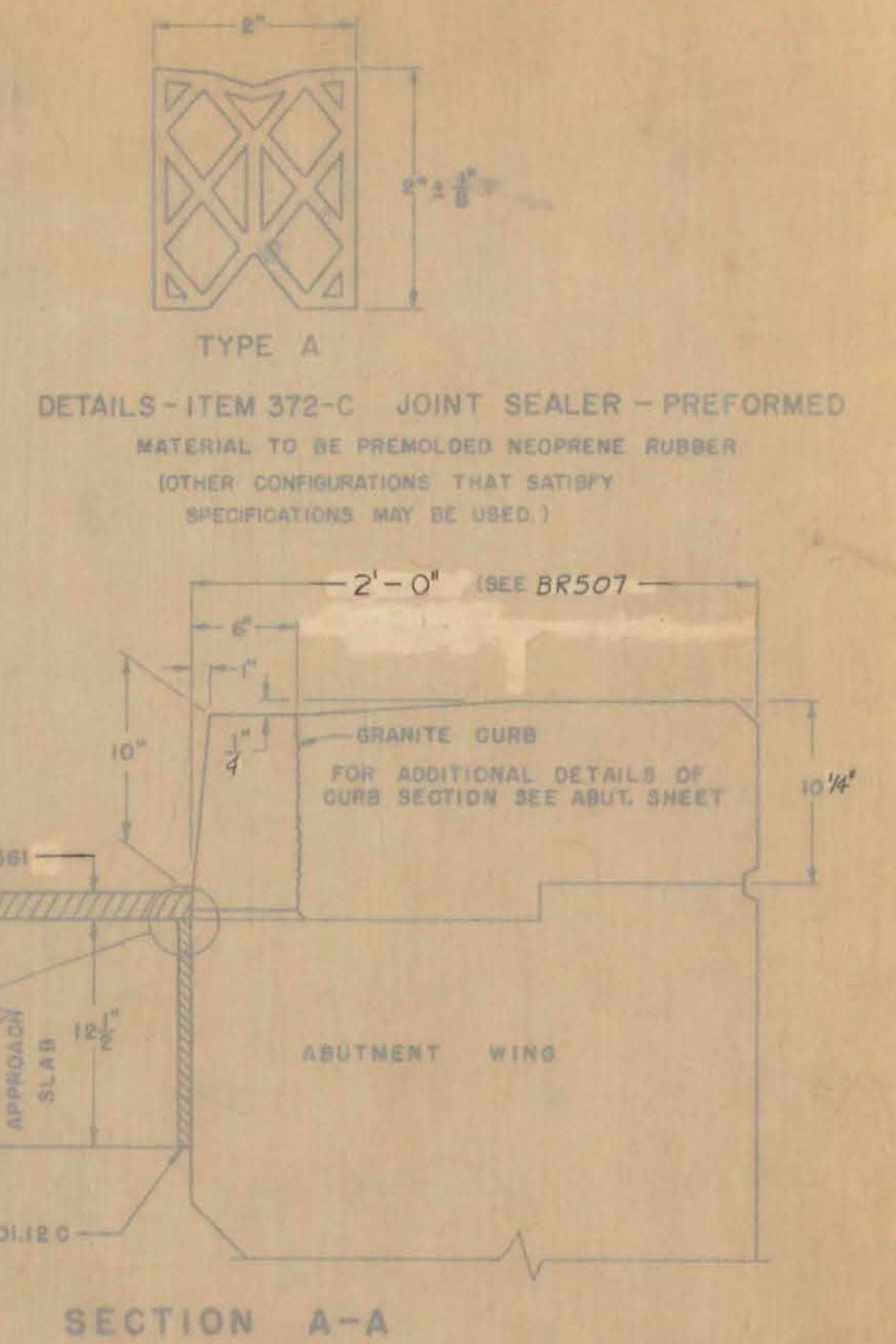
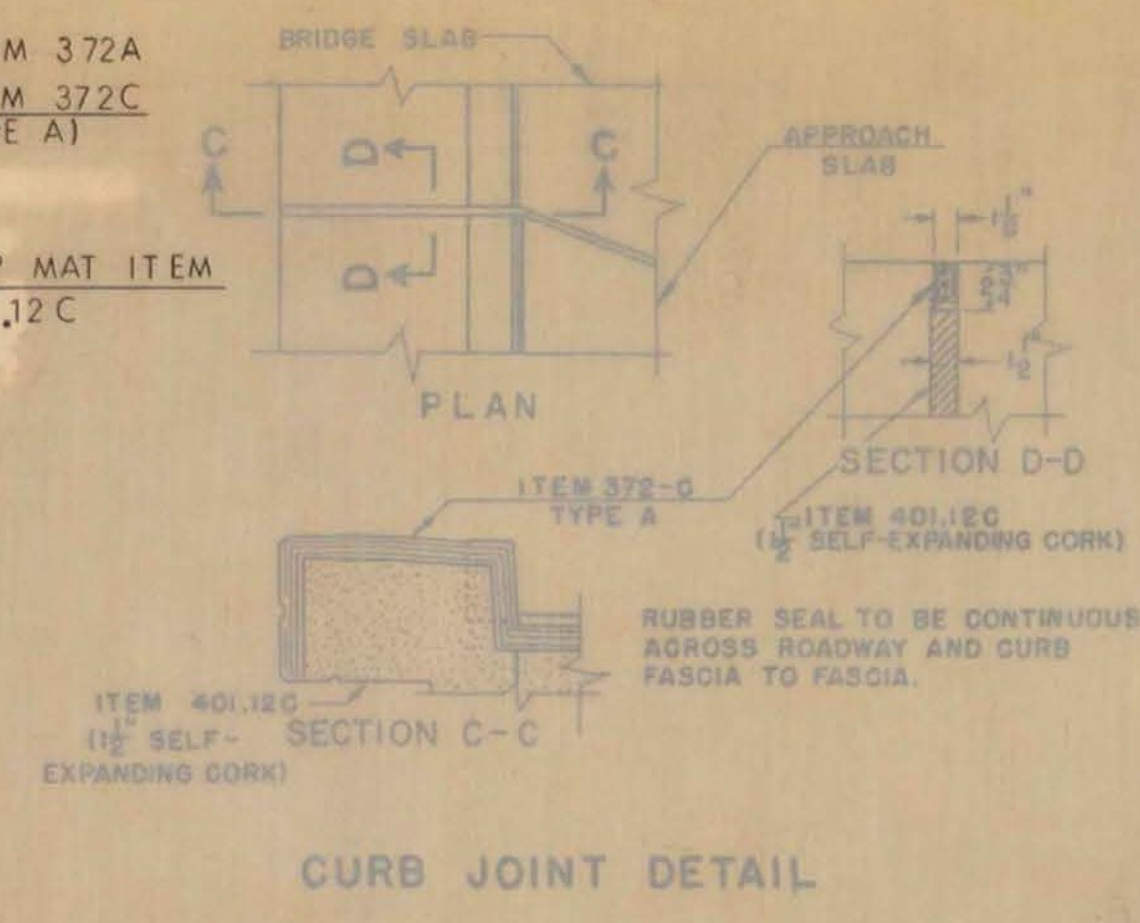
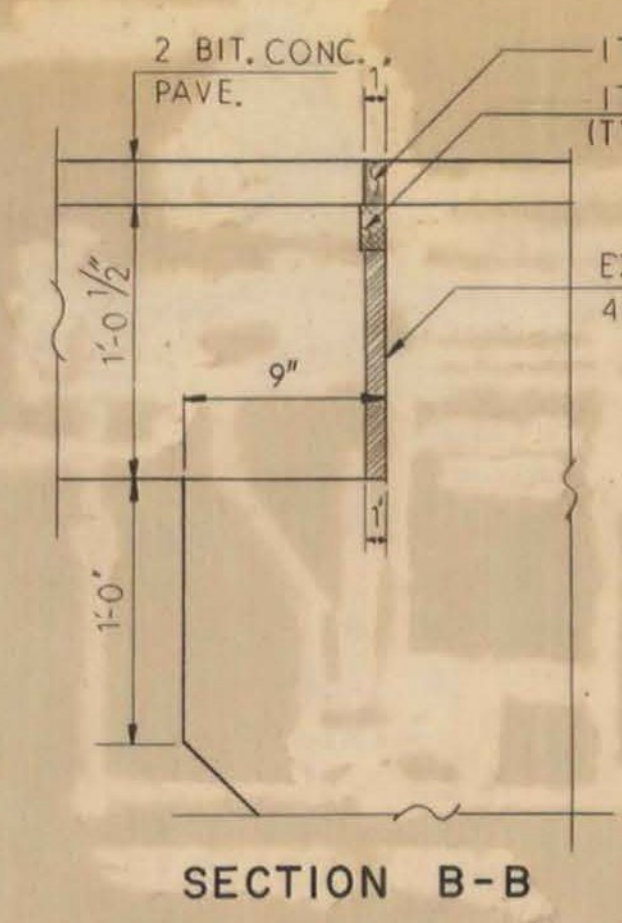
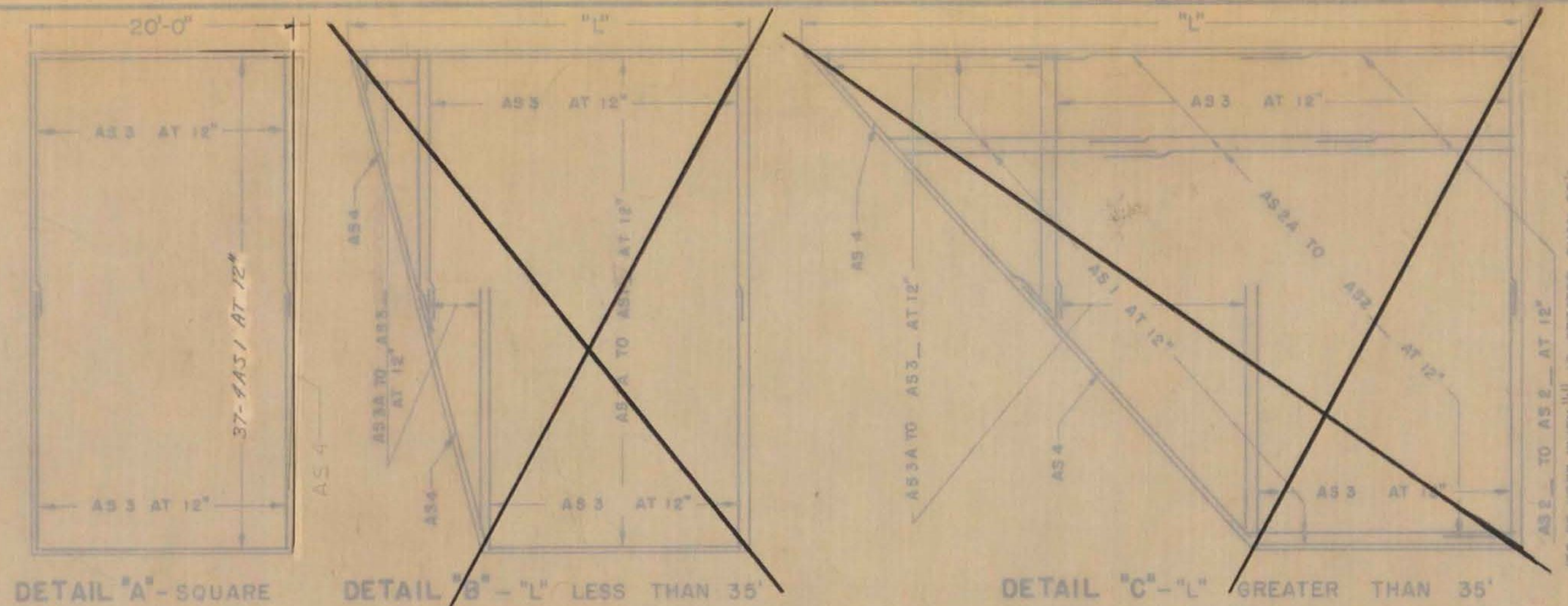
RECOMMENDED FOR APPROVAL: *[Signature]* DATE: *2/1/88*

APPROVED BY: *[Signature]* DATE: *2/1/88*

DETAILS OF APPROACH SLAB
FOR 3'-6" FOOT BRIDGE
TO BE USED FOR BRIDGE AT STATION 1076+77 E.B.
LOCATION U.S. RTE. 4 RELOCATION OVER VT. 22A RELOC.
(APPROACH SLAB NO. 3)

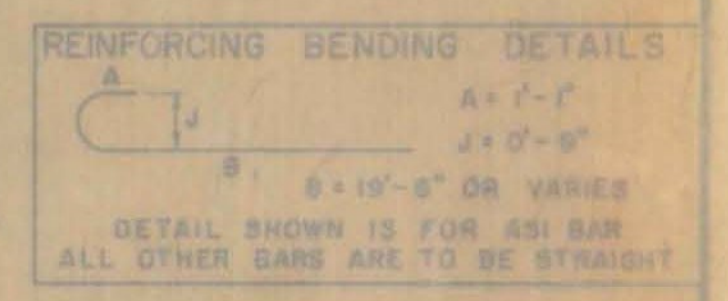
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE
SB-AS-65

PROJECT FAIR HAVEN
TOWN OF FAIR HAVEN
ROUTE NO. U.S. 4
US. RTE 4 RELOCATION OVER VT. 22A RELOC.
APPROACH SLAB NO. 3
NOT TO SCALE
IN CHARGE H.G.C.
DESIGNED BY A.M.D. CHECKED BY R.E.C.
PROJECT NO. FO20-1 (8)
SHEET 198 OF 255
CONTRACT NO. BR 519



- GENERAL NOTES
1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR HS20-44 LOADING.
 2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
 3. BITUMINOUS CONCRETE PAVEMENT VARIES FROM 2" AT BRIDGE END TO 3" AT ROADWAY END.

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 27 OF 44
BRIDGE NOS. 5E AND 5W
FOR REFERENCE ONLY



LIST OF QUANTITIES

ITEM NO.	ITEM	UNIT
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.
361	BITUMINOUS CONCRETE PAVEMENT MOD. TYPE II	TONS
372-A	JOINT SEALER - HOT FOURED	L.F.
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.
401-B	CONCRETE CLASS B	CY.
402	REINFORCING STEEL	L.B.

PROJECT FAIR HAVEN
TOWN OF FAIR HAVEN
ROUTE NO. U.S. 4 STA. WB 1077+50 E.B. 1076+77
U.S. RTE. 4 RELOCATION OVER VT. 22A RELOC.
APPROACH SLAB NO. 4
NOT TO SCALE
IN CHARGE H.G.C.
DESIGNED BY AM.C.D. CHECKED BY R.E.C.
PROJECT NO. F020-1 (8)
SHEET 199 OF 255
CONTRACT NO. BR 520

REVISIONS AND CORRECTIONS

1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED. 4/15/85 W.B.T.

2. DIMENSIONS OF JOINT SEALER TYPE B REVISED. 6/23/85 W.B.T.

3. JOINT BETWEEN CURB AND SLAB REVISED, BITUMINOUS CONCRETE REVISED TO 2". QUANTITY TOTALS REMOVED. 12/7/85 W.B.T.

DRAWN BY: W.B.T. Jan. 1964
TRACED BY: W.B.T. Jan. 1964
CHECKED BY: W.M.S. Feb. 1965
RECOMMENDED FOR APPROVAL: [Signature] 2/16/65
RECOMMENDED FOR APPROVAL: [Signature] 2/16/65
APPROVED BY: [Signature] 2/16/65

DETAILS OF APPROACH SLAB
FOR 36'-8" FOOT BRIDGE
TO BE USED FOR BRIDGE AT STATION 1076+77 E.B.
LOCATION U.S. ROUTE 4 RELOCATION OVER VT. 22A RELOC. (APPROACH SLAB NO. 4)

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE
SB-AS-65

CURVE DATA
 EAST BOUND WEST BOUND
 Δ 33° 12' 12" RT Δ 33° 57' 06" RT
 D 3° D 3°
 BANK 1/8" FT BANK 3/4" FT

BASLINE
 Δ 33° 57' RT
 D 3° 30'

RR P.T. 52+86.08
 Δ 5° 08' 02" RT

W.B. P.T. 684+23.86
 T.L. 52138.31

PIER #3 688+83
 & F.G. 528.06

PIER #4 689+37
 & F.G. 528.60

ABUT #2 689+91
 & F.G. 529.14

REV. W.B. P.T.
 691+41.98

W.B. P.T. 684+23.86
 & F.G. 528.06

PIER #1 687+30
 & F.G. 526.54

PIER #2 687+84
 & F.G. 527.07

ABUT #1 686+76
 & F.G. 526.00

W.B. P.T. 684+23.86
 & F.G. 528.06

PIER #5 685+78
 & F.G. 523.21

PIER #6 686+22
 & F.G. 524.48

PIER #3 688+83
 & F.G. 528.06

ABUT #4 689+29
 & F.G. 528.22

REV. E.B. 686+76
 T.L. 50+73.32

PLAN
 SCALE 1" = 30'

Design Allowable stresses
 Concrete $f_c = 3000$ P.S.I. $f_c = 1200$ P.S.I.
 Structural steel $f_s = 20,000$ P.S.I.
 Reinforcing steel $f_s = 20,000$ P.S.I. Tension
 16,000 P.S.I. Compression

LIST OF BRIDGE SHEETS

BR100	PLAN & ELEVATION
BR101-102	BRIDGE QUANTITY SHEETS
BR103	PRELIMINARY INFORMATION SHEET
BR104-105	BORINGS
BR106-107	RAILING, CURB, & FRAMING PLANS
BR108-112	ABUTMENTS #1, #2, #3, #4
BR113-118	PIERS #1 THRU #8
BR119-122	APPROACH SLABS #1 THRU #4
BR123-125	RETAINING WALLS
BR126-131	REINFORCING STEEL SHEETS
BR132-134	CHANNEL SECTIONS

STANDARD SHEETS

SCB-30-65	SB-R1-64 (SH. 142)
SB-R2-65	SCB-DITHRU 29-65

GENERAL NOTES

- ALL 12BP53 STEEL PILES SHALL BE DRIVEN TO A BEARING CAPACITY OF 45 TONS PER PILE.
- ELEVATION DATUM IS SEA LEVEL BASED ON NEAREST U.S. GOVERNMENT VERTICAL CONTROL.
- FOR ADDITIONAL GENERAL NOTES SEE SCB-D1-65.
- APPROACH SLABS SHALL BE CONSTRUCTED AS PART OF STAGE 1 CONSTRUCTION.
- IF ROCK FILL IS NOT AVAILABLE, USE ITEM 204 (1" THICK) FOR SLOPE PROTECTION UNDER BRIDGES AT ABUT. #1 & #3.
- EASTBOUND BRIDGE SHALL BE POSITIONED FROM PIER 6. THE E. OF PIER 6 SHALL BE AT THE INTERSECTION OF E.B. LANE AND E. DH R.R. A PRELIMINARY FIELD CHECK WAS MADE PRIOR TO DESIGN. A FINAL FIELD CHECK SHOULD BE MADE OF THIS INTERSECTION, AND PIER LOCATION REVISED IF NECESSARY.
- ITEM 505, PILE WHEN IN THE OP. DESIGNED LOAD ACHIEVED.

FAIR HAVEN - WEST RUTLAND
 BF MEMB (35)
 SHEET 28 OF 44
 BRIDGE NO. 13E
 FOR REFERENCE ONLY

Design Notes

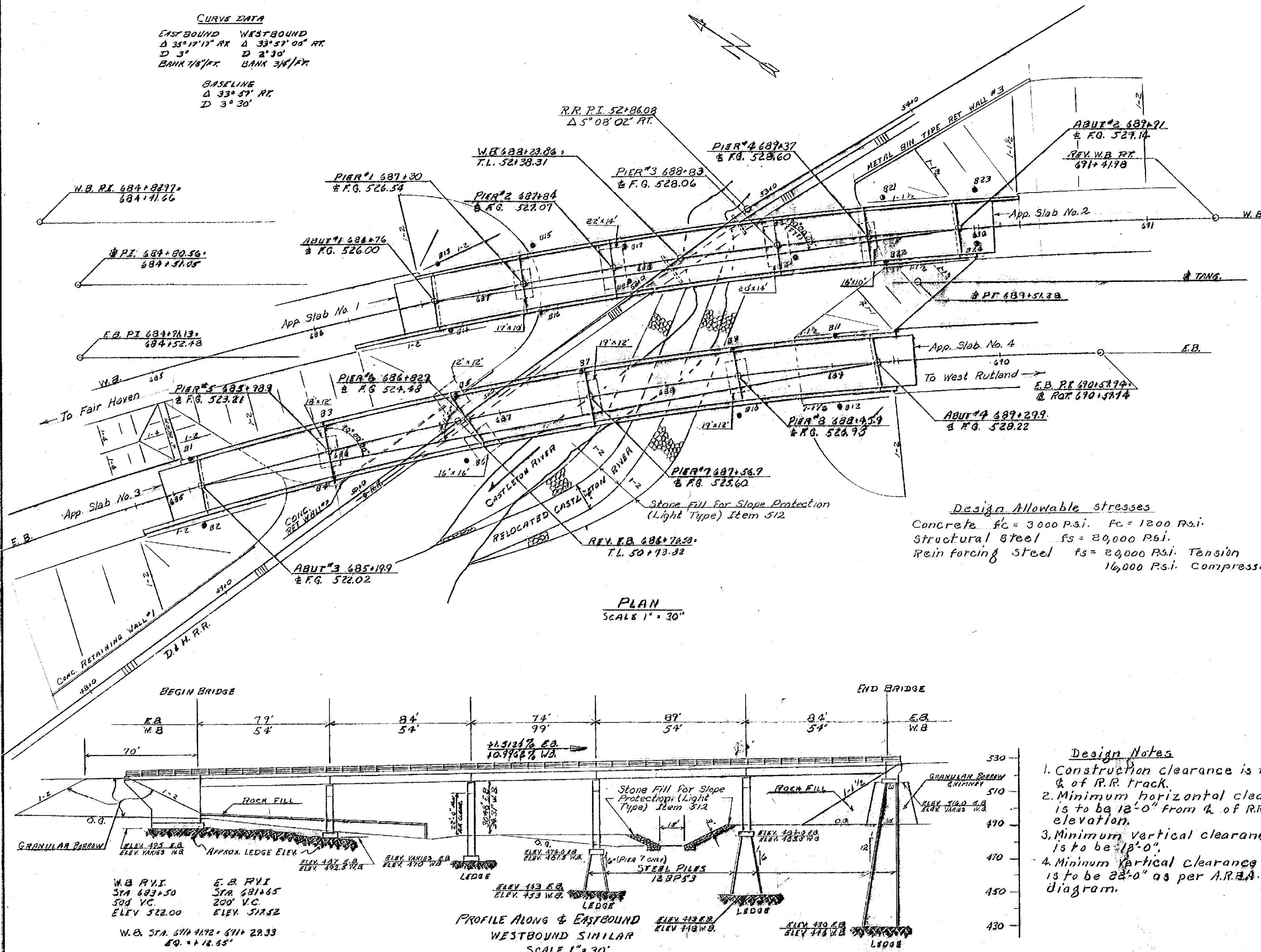
- Construction clearance is to be 8' 0" horizontally from $\frac{1}{4}$ of R.R. track.
- Minimum horizontal clearance after construction is to be 12' 0" from $\frac{1}{4}$ of R.R. Track above track elevation.
- Minimum vertical clearance during construction is to be 18' 0".
- Minimum vertical clearance after construction is to be 22' 0" as per A.R.E.A. standard clearance diagram.

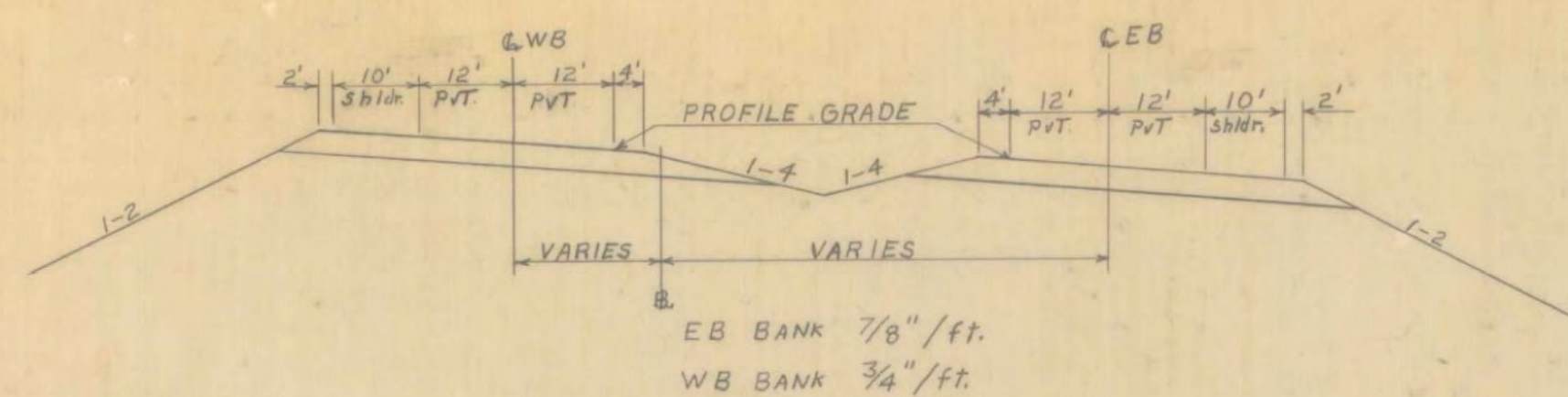
STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT --- WEST RUTLAND
 TOWN OF --- WEST RUTLAND
 ROUTE NO. 113-E STA. 487+30
 113.4 OVER D.H. RAILROAD
 CASTLETON RIVER
 SCALE --- 1" = 30'
 IN. CHARGE --- W. SMITH
 DRAWN BY --- P. J. CHECKED BY --- W. SMITH
 PROJECT NO. 00039-110
 SHEET 31 OF 392 BB-100

Stage 2 Construction

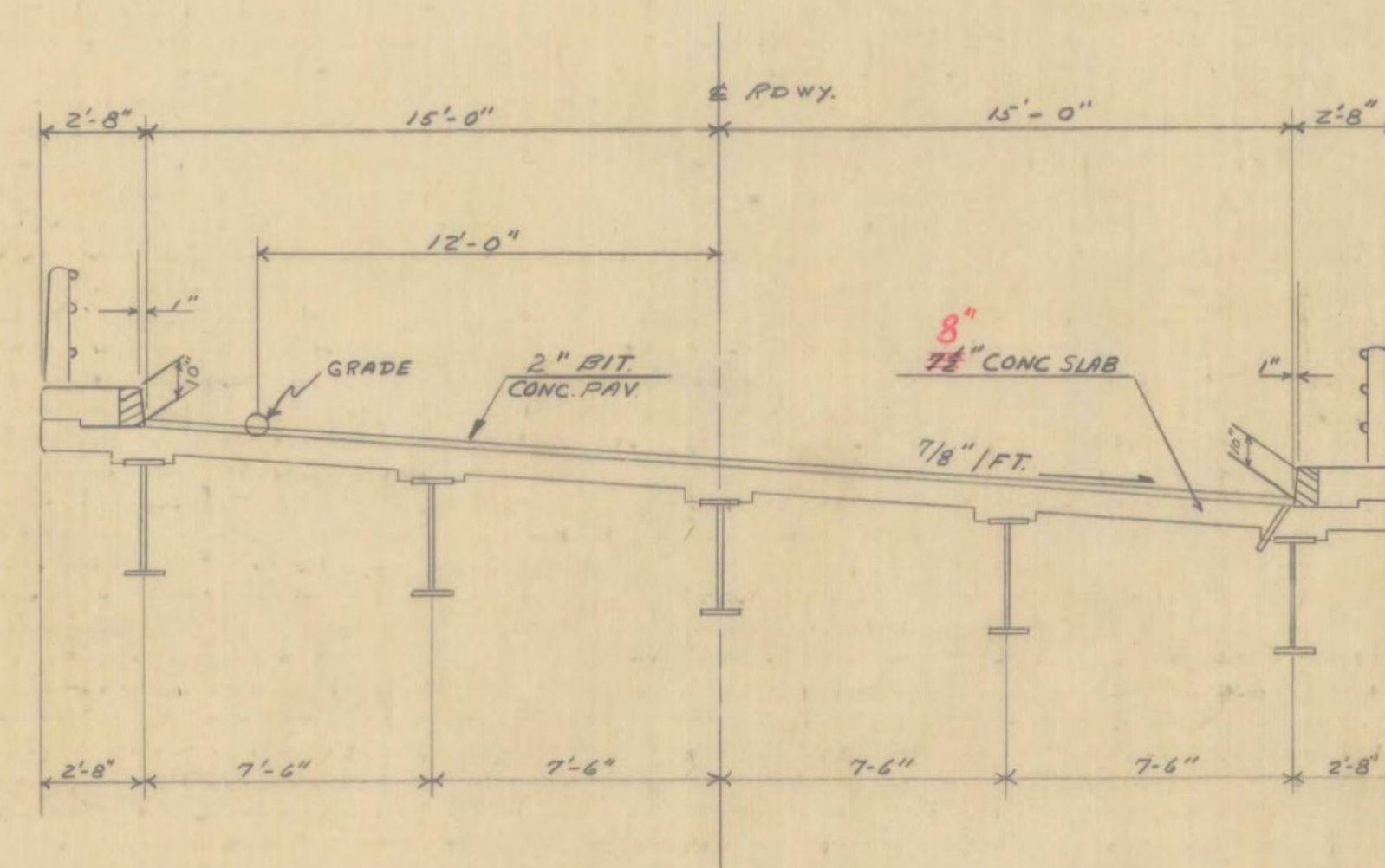
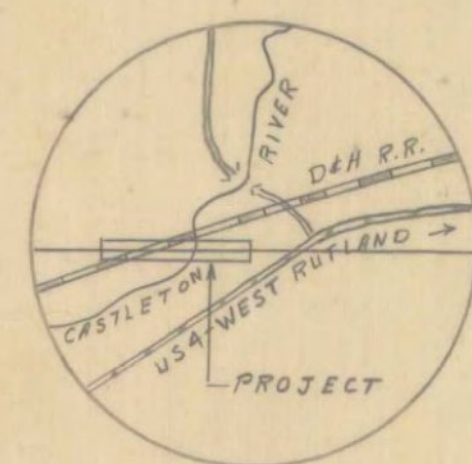
Sheet 13a of 170 Sheets





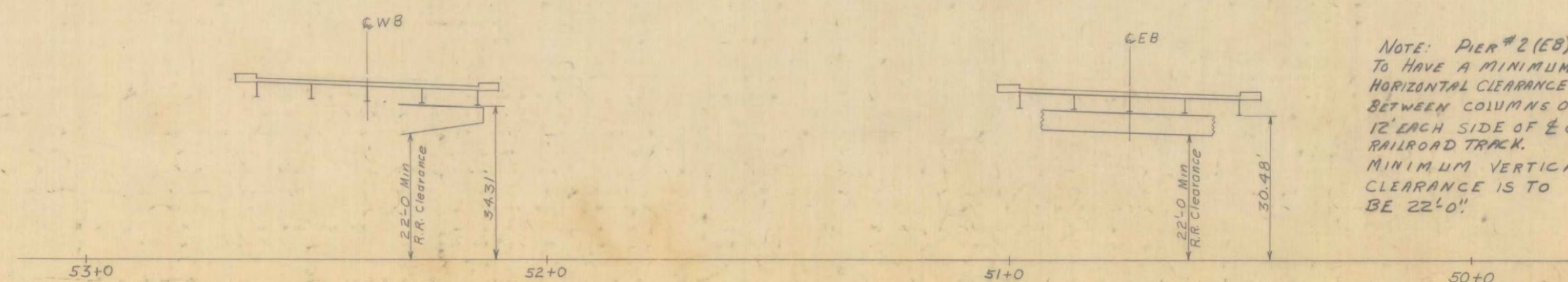
NEW HIGHWAY SECT. STA. 688+00 TO STA. 690+00
SCALE 1"=20'

NEW HIGHWAY PROFILE ALONG C.E.B.
SCALE



TYPICAL EASTBOUND BRIDGE SECTION
SCALE 1"=4'-0"
WESTBOUND BRIDGE SIMILAR

PLAN
SCALE



PROFILE OF EXISTING RAILROAD
SCALE 1"=20'

NOTE: PIER #2 (EB)
TO HAVE A MINIMUM
HORIZONTAL CLEARANCE
BETWEEN COLUMNS OF
12' EACH SIDE OF E OF
RAILROAD TRACK.
MINIMUM VERTICAL
CLEARANCE IS TO
BE 22'-0"

HIGHWAY NO. US 4 NAME OF HIGHWAY RELOCATED US 4
STRUCTURE NO. 52-B1 COUNTY RUTLAND TOWN WEST RUTLAND
PROJECT NO. AP020-100 LOCATION RELOCATED US 4 OVER DELAWARE & HUDSON
RAILROAD & CASTLETON RIVER

EXISTING STRUCTURE

1. RATED LOADING OF EXISTING STRUCTURE
2. TYPE OF EXISTING STRUCTURE
3. UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE? COST OF REMOVAL
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE?
6. SHOULD NEW TEMPORARY STRUCTURE BE BUILT?
7. ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE WATERWAY TO ORDINARY H.W.
8. EXTREME HIGH WATER AT EXISTING STRUCTURE WATERWAY TO EXTREME H.W.
9. SPAN OF EXISTING BRIDGE UPSTREAM WATERWAY TO EXTREME H.W.
10. SPAN OF EXISTING BRIDGE DOWNSTREAM WATERWAY TO EXTREME H.W.
11. TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS
12. DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE?
13. IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED?
14. ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

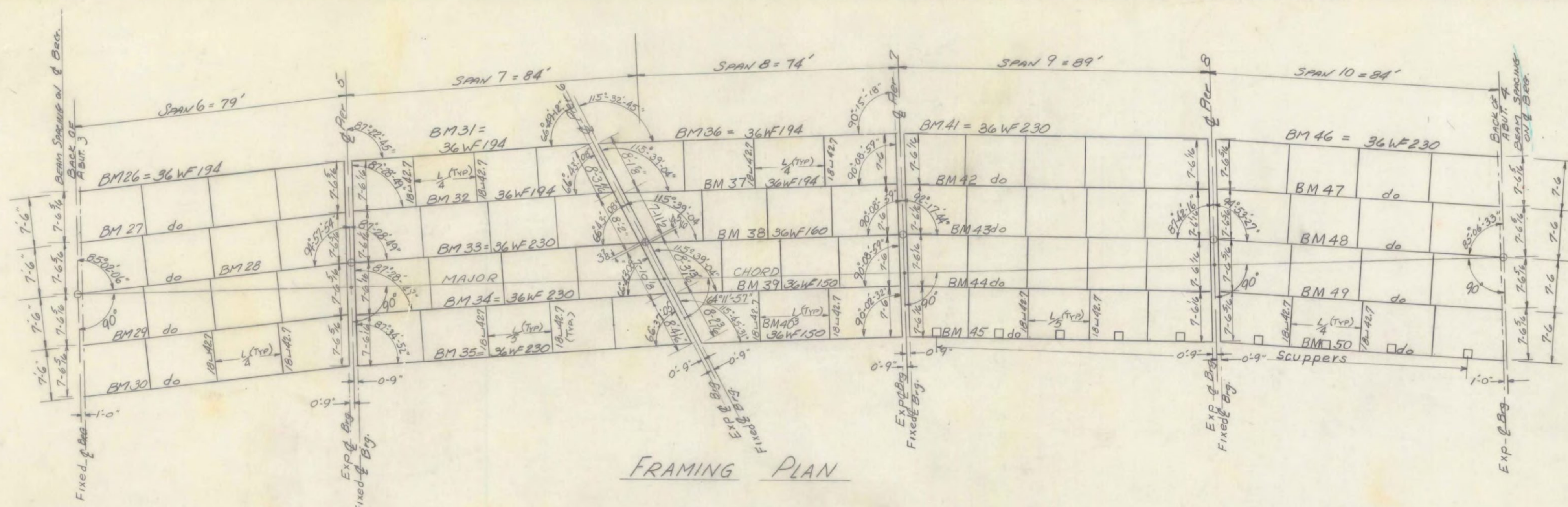
1. RECOMMENDED TYPE OF STRUCTURE Simple Spans - W Beam Composite
2. RECOMMENDED CLEAR SPAN OR SPANS 79'-84'-74'-89'-84' EB & 54'-54'-99'-54'-54' WB
3. MEASURED PARALLEL TO NEW HIGHWAY Same
4. MEASURED AT RIGHT ANGLES TO STREAM NA
5. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? ANSWER YES OR NO. No
6. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 480
7. EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE 487 SOURCE OF INFORMATION USGS
8. IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? Yes
9. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? No IS ORDINARY RISE RAPID? No
10. LOW WATER ELEVATION AT NEW STRUCTURE 479
11. DRAINAGE AREA IN ACRES ABOVE STRUCTURE 9656 CHARACTER OF TERRAIN Mountainous
12. IS STREAM EVER DRY? No
13. VELOCITY OF STREAM AT HIGH WATER STAGE 9 ft/sec ESTIMATED DISCHARGE 2300 cfs
14. AREA FULL OPENING 225 ft² AREA BELOW ORDINARY H.W. 16 ft²
15. CHARACTER OF SCOUR slight DRIFT slight ICE slight
16. ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE None
17. VERTICAL CLEARANCE ABOVE FLOOD ELEVATION 33 ft
18. ARE SIDEWALKS REQUIRED? IF SO ON WHAT SIDE? No BOTH SIDES
19. RECOMMENDED TYPE OF PAVEMENT 7 1/2" Concrete Slab & 2" Bituminous Concrete
20. TRAFFIC TO BE MAINTAINED UNDER ITEM NO. NA ONE OR TWO WAYS PROBABLE COST
21. PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE None
22. SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES? No
23. ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS Ledge - Should Piles Be Used? Yes EST. LTH Varies
3 Tons/ft²; Earth (walls) 2 Tons/ft² 12 BP53 - 45 Tons

FOUNDATION INFORMATION

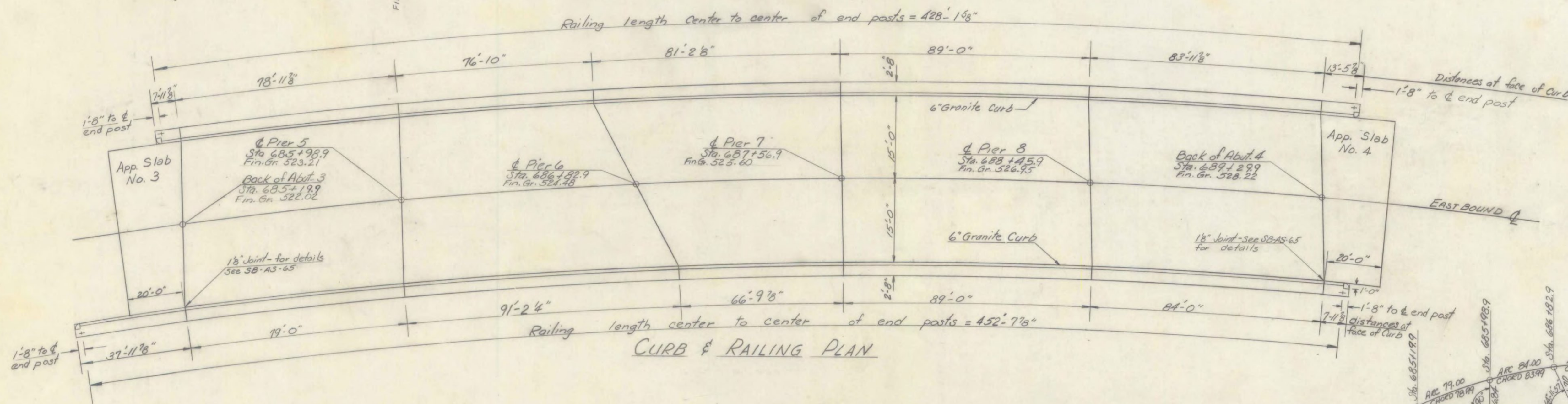
OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 29 OF 44
BRIDGE NO. 13E
FOR REFERENCE ONLY

RECOMMENDED FOR APPROVAL	<u>E. H. Stinchey</u>	DATE	<u>11/19/65</u>
RECOMMENDED FOR APPROVAL	<u>Am Boyer</u>	DATE	<u>11/19/65</u>
RECOMMENDED FOR APPROVAL	<u>R. H. Arnold</u>	DATE	<u>11/19/65</u>
APPROVED BY	<u>A. S. Paul</u>	DATE	<u>11/19/65</u>
STATE OF VERMONT DEPARTMENT OF HIGHWAYS RELOCATED US 4 IN THE TOWNS OF FAIR HAVEN - WEST RUTLAND ROUTE NO. <u>US 4</u> STA. <u>687+50</u> <u>US 4 OVER D & H RAILROAD & CASTLETON R.</u> SURVEYED BY <u>Bornas</u> CHECKED BY <u>WMS</u> SCALE <u>As Noted</u> DRAWN BY <u>AGC</u> IN CHARGE <u>WMS</u> DATE <u>12 Nov 65</u> PROJECT NO. <u>AP020-100</u> SHEET <u>34</u> OF <u>359</u>			



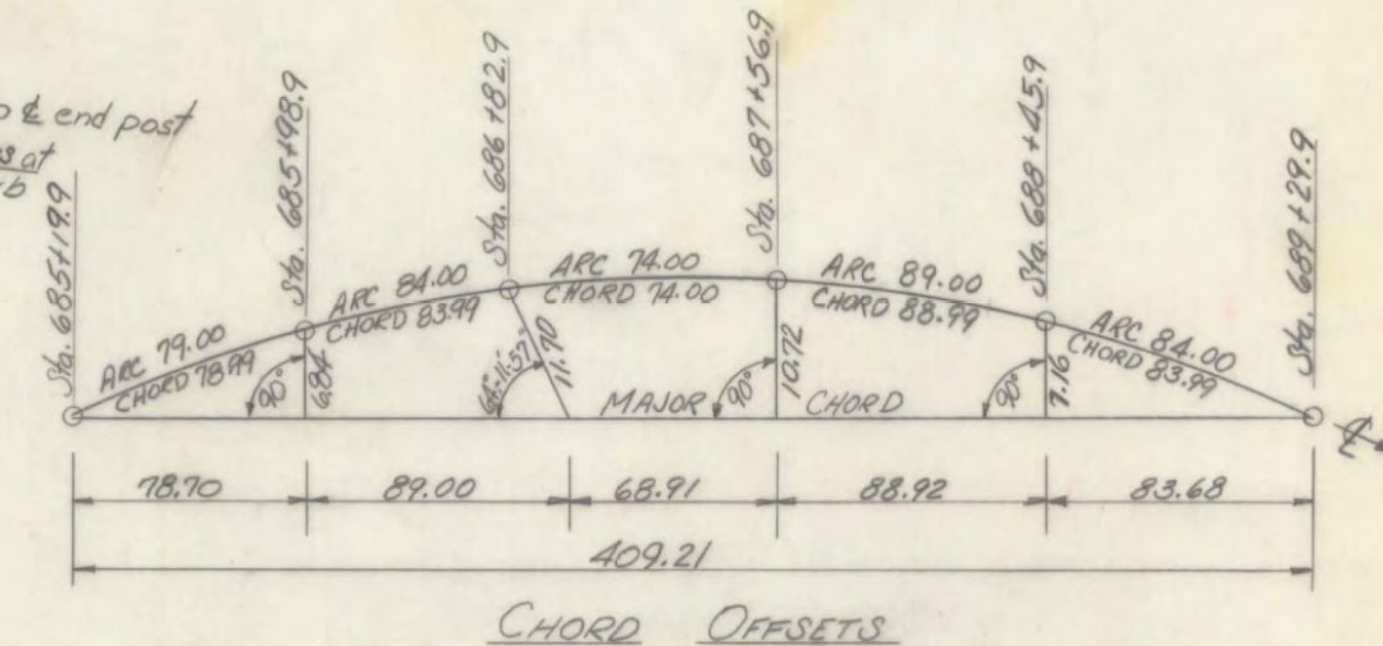
FRAMING PLAN



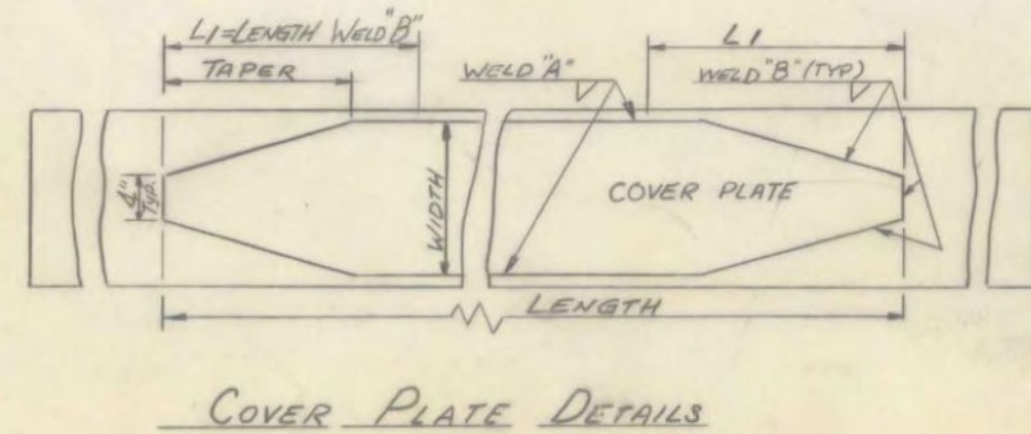
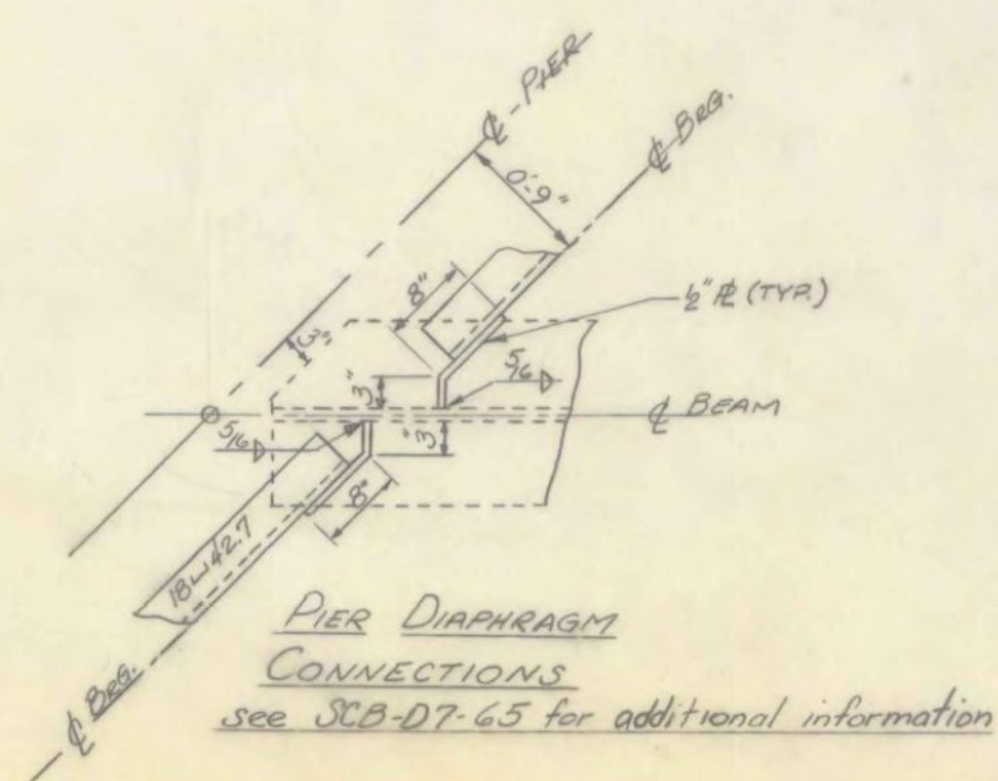
CURB & RAILING PLAN

NOTES:
1. For Superstructure notes see Br 106
2. All expansion bearing devices on the eastbound lane shall be as per SCB-DB-65, detail B

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 30 OF 44
BRIDGE NO. 13E
FOR REFERENCE ONLY



CHORD OFFSETS

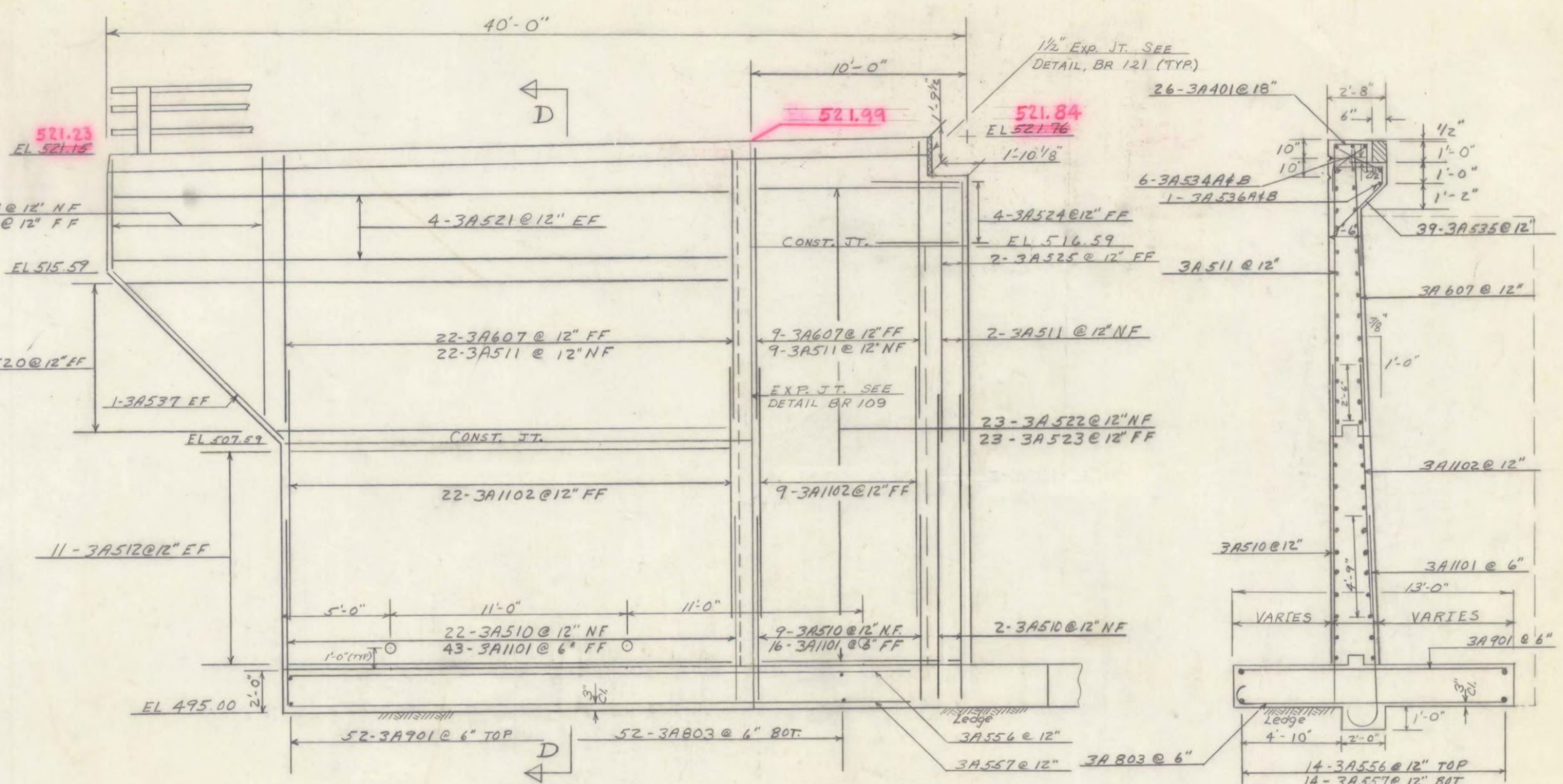
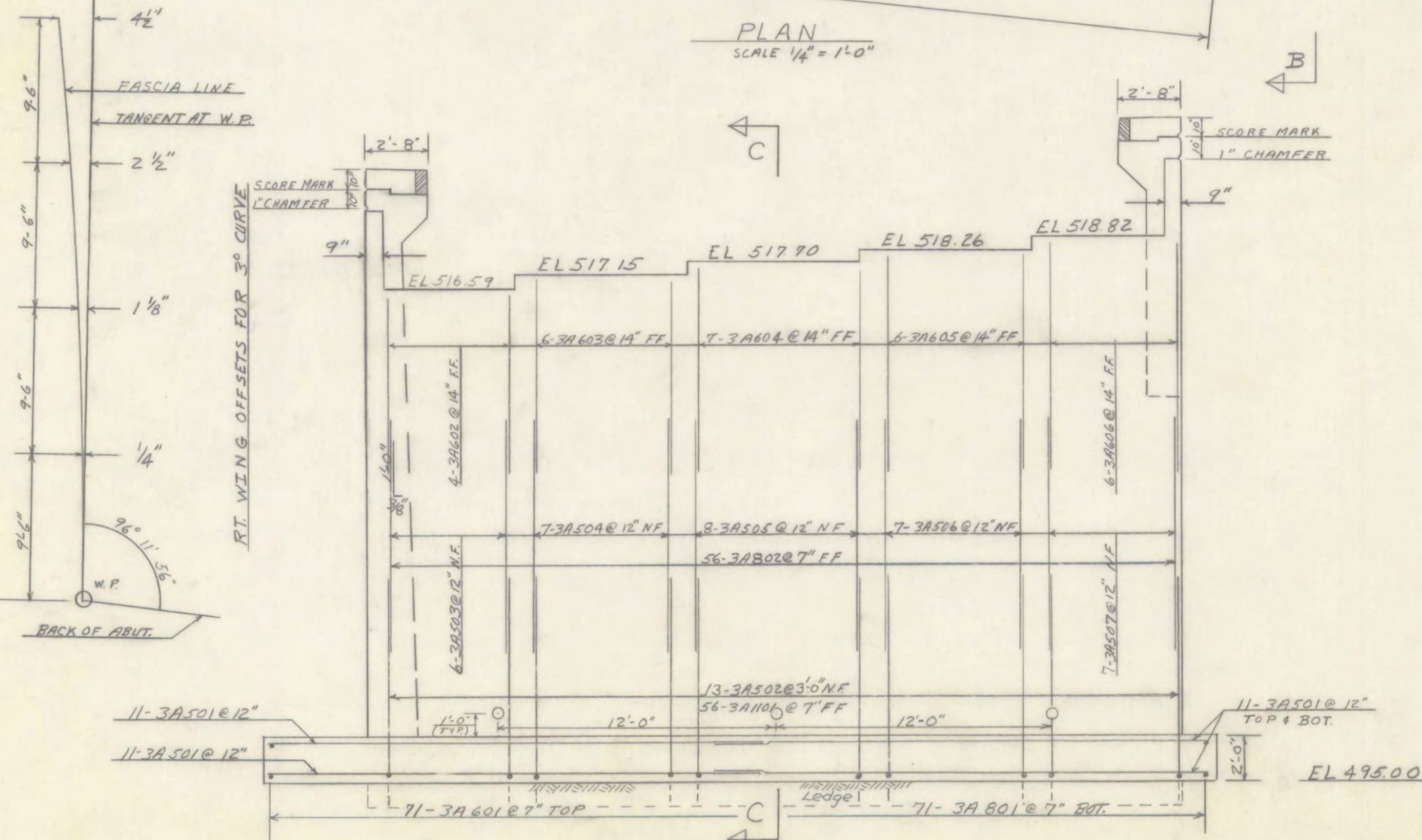
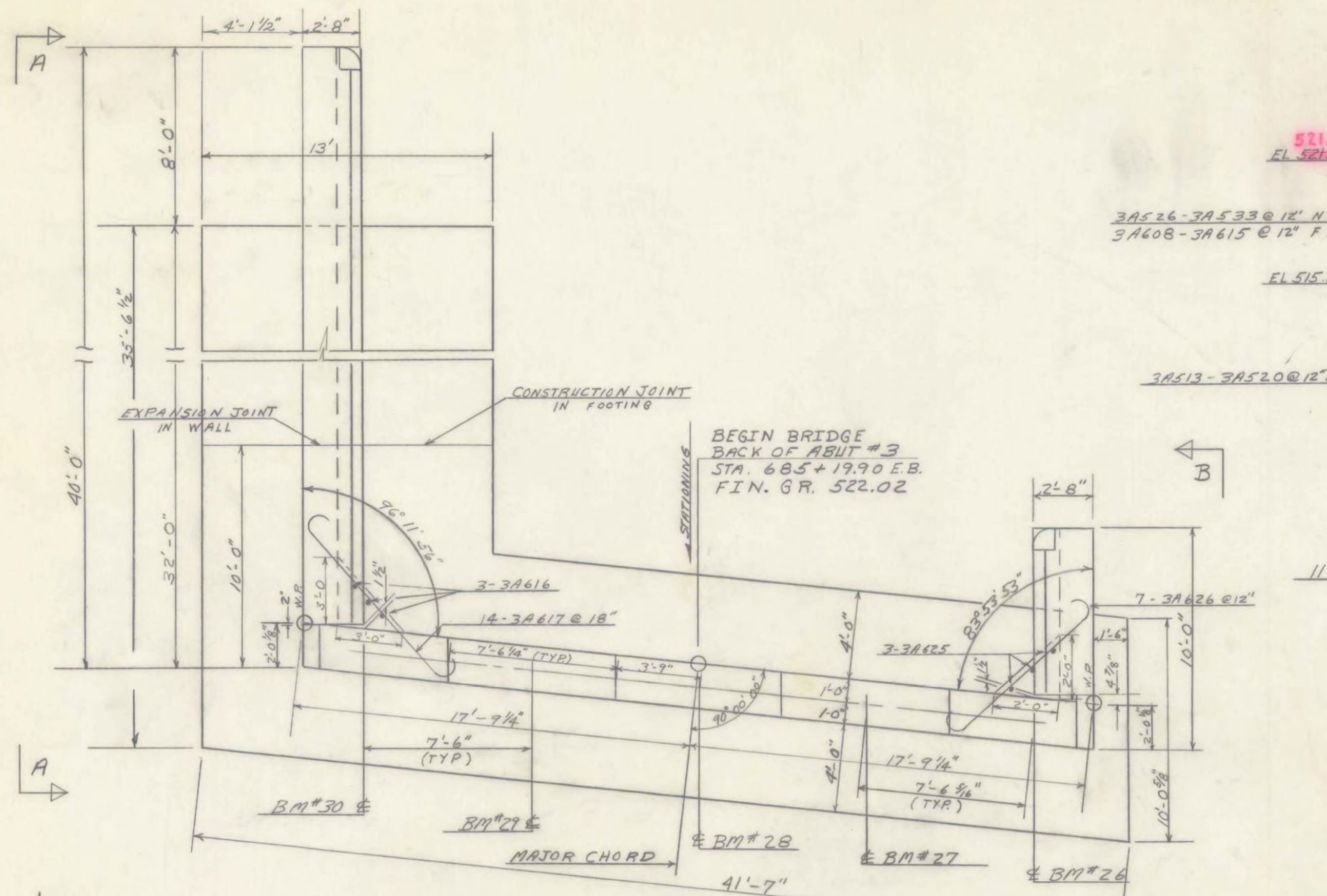


COVER PLATE DETAILS

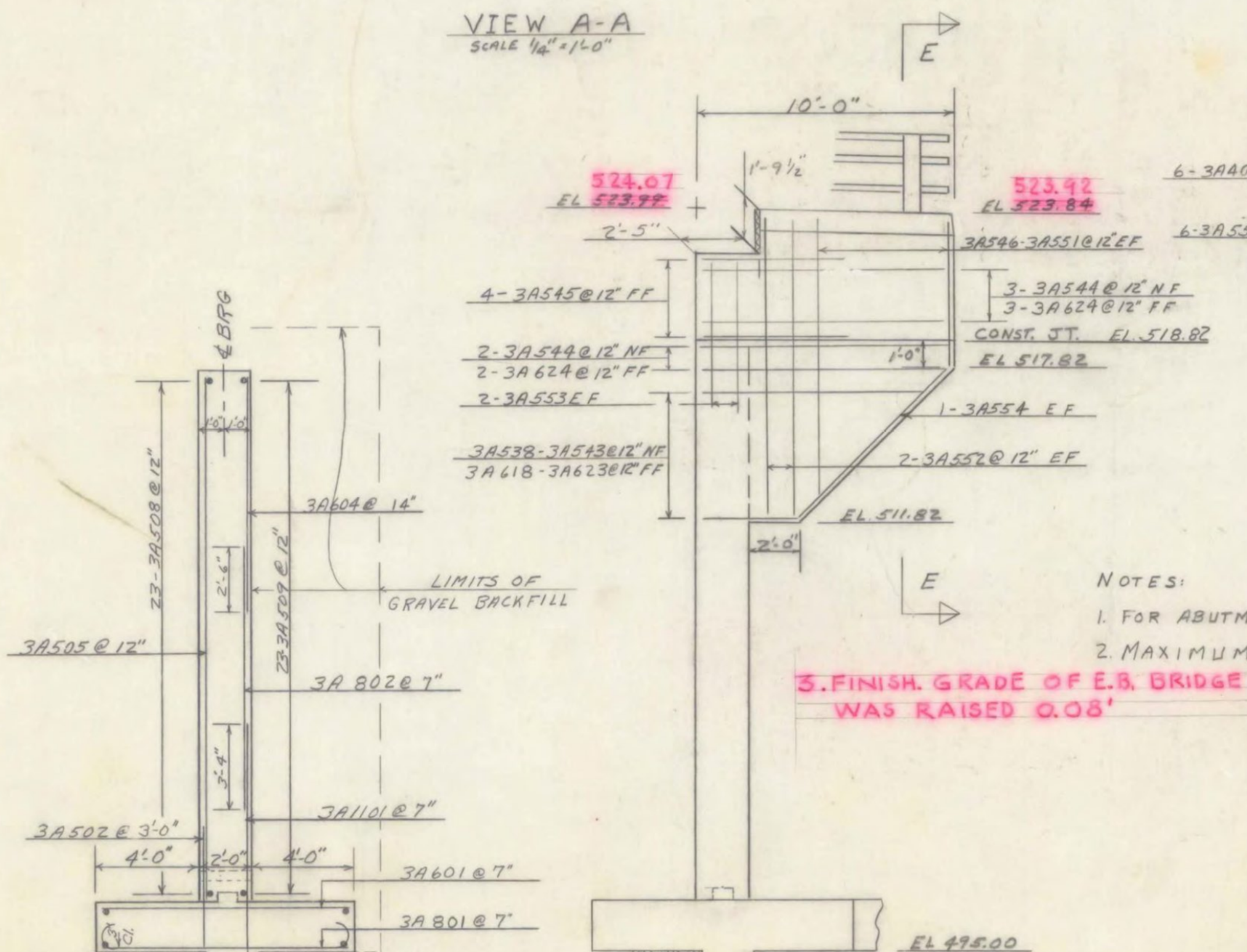
SPAN	BEAM NO.	CAMBER	SIZE	LENGTH C-C OF BRG.	COVER PLATE (SEE SCB-D7-65)				SPIRAL PITCH FOR SHEAR CURVE (SEE SCB-D7-65)									
					LENGTH	WIDTH	THICKNESS	TAPER	WELD "A"	WELD "B"	L1	0'-10"	10'-20"	20'-30"	30'-40"	40'-50"	50'-60"	60'-70"
6	ALL	3/8"	36WF194	77.24	49-10	10"	1/4"	1'-0"	5/16	1/2	2'-0"	double @ 5"	double @ 7"	double @ 9"	double @ 11"	double @ 13"	double @ 15"	double @ 17"
	31	3/8"	36WF194	75.26	47-1	10"	1/8"	1'-0"	5/16	1/2	1'-9 1/2"	double @ 5 1/2"	double @ 7 1/2"	double @ 9 1/2"	double @ 11 1/2"	double @ 13 1/2"	double @ 15 1/2"	double @ 17 1/2"
7	32	3/4"	36WF194	78.87	52-9	10"	1/8"	1'-0"	5/16	1/2	2'-3"	double @ 5"	double @ 7"	double @ 9"	double @ 11"	double @ 13"	double @ 15"	double @ 17"
	33	3/8"	36WF230	82.43	49-7	14"	7/8"	1'-6"	5/16	1/2	1'-11"	" 5 1/2"	" 6 1/2"	" 7 1/2"	" 8 1/2"	" 9 1/2"	" 10 1/2"	" 11 1/2"
	34	3/8"	36WF230	85.98	56-8	14"	1 1/8"	1'-6"	5/16	1/2	2'-7"	" 5 1/2"	" 6 1/2"	" 7 1/2"	" 8 1/2"	" 9 1/2"	" 10 1/2"	" 11 1/2"
	35	3/8"	36WF230	89.61	63-2	14"	1 3/8"	1'-6"	3/8	1/2	3'-2"	" 5 1/2"	" 6 1/2"	" 7 1/2"	" 8 1/2"	" 9 1/2"	" 10 1/2"	" 11 1/2"
8	36	3/8"	36WF194	79.59	54-11	10"	1/2	1'-0"	5/16	1/2	2'-6"	double @ 5"	double @ 7"	double @ 9"	double @ 11"	double @ 13"	double @ 15"	double @ 17"
	37	3"	36WF194	76.03	46-5	10"	1/8	1'-0"	5/16	1/2	1'-9 1/2"	" 5"	" 6 1/2"	" 7 1/2"	" 8 1/2"	" 9 1/2"	" 10 1/2"	" 11 1/2"
	38	2 1/8"	36WF180	72.41	50-0	10"	1/4	1'-0"	5/16	1/2	2'-0"	" 5"	" 6"	" 7"	" 8"	" 9"	" 10"	" 11"
	39	2 3/4"	36WF150	68.79	46-11	10"	1/8	1'-0"	5/16	1/2	1'-9 1/2"	" 5"	" 6 1/2"	" 7 1/2"	" 8 1/2"	" 9 1/2"	" 10 1/2"	" 11 1/2"
	40	2 3/8"	36WF150	65.23	41-1	10"	7/8	1'-0"	5/16	1/2	1'-9 1/2"	" 5"	" 6 1/2"	" 7 1/2"	" 8 1/2"	" 9 1/2"	" 10 1/2"	" 11 1/2"
9	ALL	3/8"	36WF230	87.50	59-5	14"	1/4	1'-6"	5/16	1/2	2'-10"	double @ 5 1/2"	double @ 7 1/2"	double @ 9 1/2"	double @ 11 1/2"	double @ 13 1/2"	double @ 15 1/2"	double @ 17 1/2"
10	ALL	3/2"	36WF230	82.24	49-5	14"	7/8	1'-6"	5/16	1/2	1'-11"	double @ 5 1/2"	double @ 7 1/2"	double @ 9 1/2"	double @ 11 1/2"	double @ 13 1/2"	double @ 15 1/2"	double @ 17 1/2"

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT WEST RUTLAND
TOWN OF WEST RUTLAND
ROUTE NO US 4 STA. 687+50
US 4 over R.R. and CASTLETON RIVER
FRAMING PLAN & CURB and RAILING PLAN
SCALE NOT TO SCALE
IN CHARGE W. Smith
DRAWN BY ISHAM CHECKED BY D. PERKINS
PROJECT NO AP 020-1(10)
SHEET 30 OF 359 BR 107



SECTION D-D
SCALE 1/4" = 1'-0"



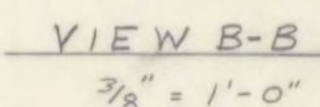
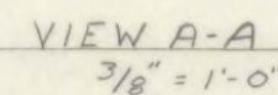
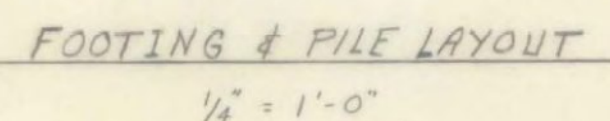
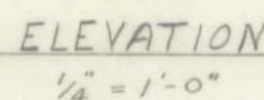
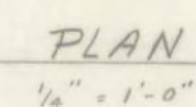
SECTION E-E
SCALE 1/4" = 1'-0"

- NOTES:
1. FOR ABUTMENT NOTES SEE BR 108.
 2. MAXIMUM FOOTING PRESSURE IS 6 KIPS PER SQ. FT.

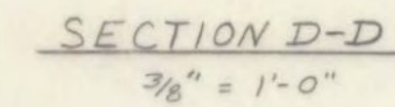
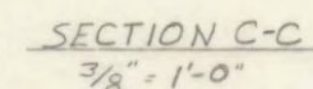
3. FINISH GRADE OF E.B. BRIDGE WAS RAISED 0.08'

STATE OF VERMONT	
DEPARTMENT OF HIGHWAYS	
PROJECT	WEST RUTLAND
TOWN OF	WEST RUTLAND
ROUTE NO	US 4
STA.	687+50
US 4 OVER D.H. R.R. CASTLETON R.	
ABUTMENT # 3 (E.B.)	
SCALE	AS NOTED
CHARGE	W. SMITH
BY	BY D. PERKINS CHECKED BY A. COUCH 4-66
PROJECT NO.	RD 020-1(10)
SHEET	92 OF 359 BR 111

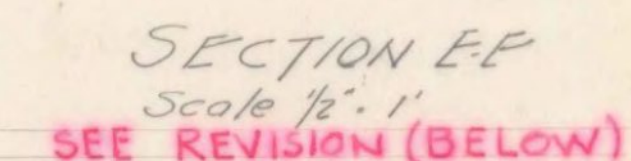
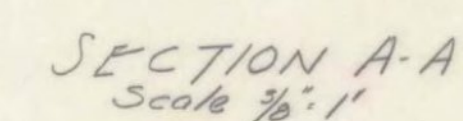
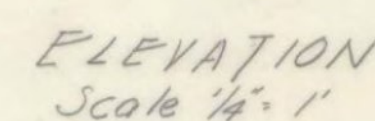
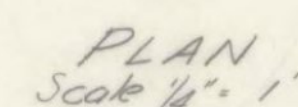
FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 31 OF 44
BRIDGE NO. 13E
FOR REFERENCE ONLY



No Piles	Size	Est. Length of Piles	Splices Allowed for Piles not exceeding Plan Length (To be paid for only if used)	Splices Estimate for Piles exceeding Plan Length (to be paid for only if used)
11	12BP53	90	11	2

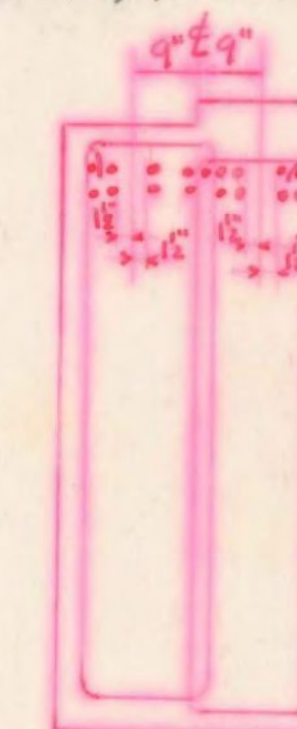


SHEET 93 OF 359 BR 112



NOTES

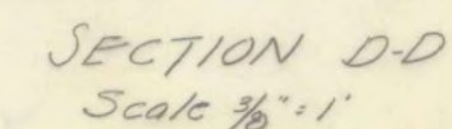
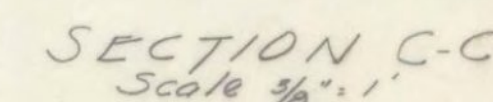
1. For pier notes see Br 113
2. Maximum footing pressure is 6.5 kips per sq ft



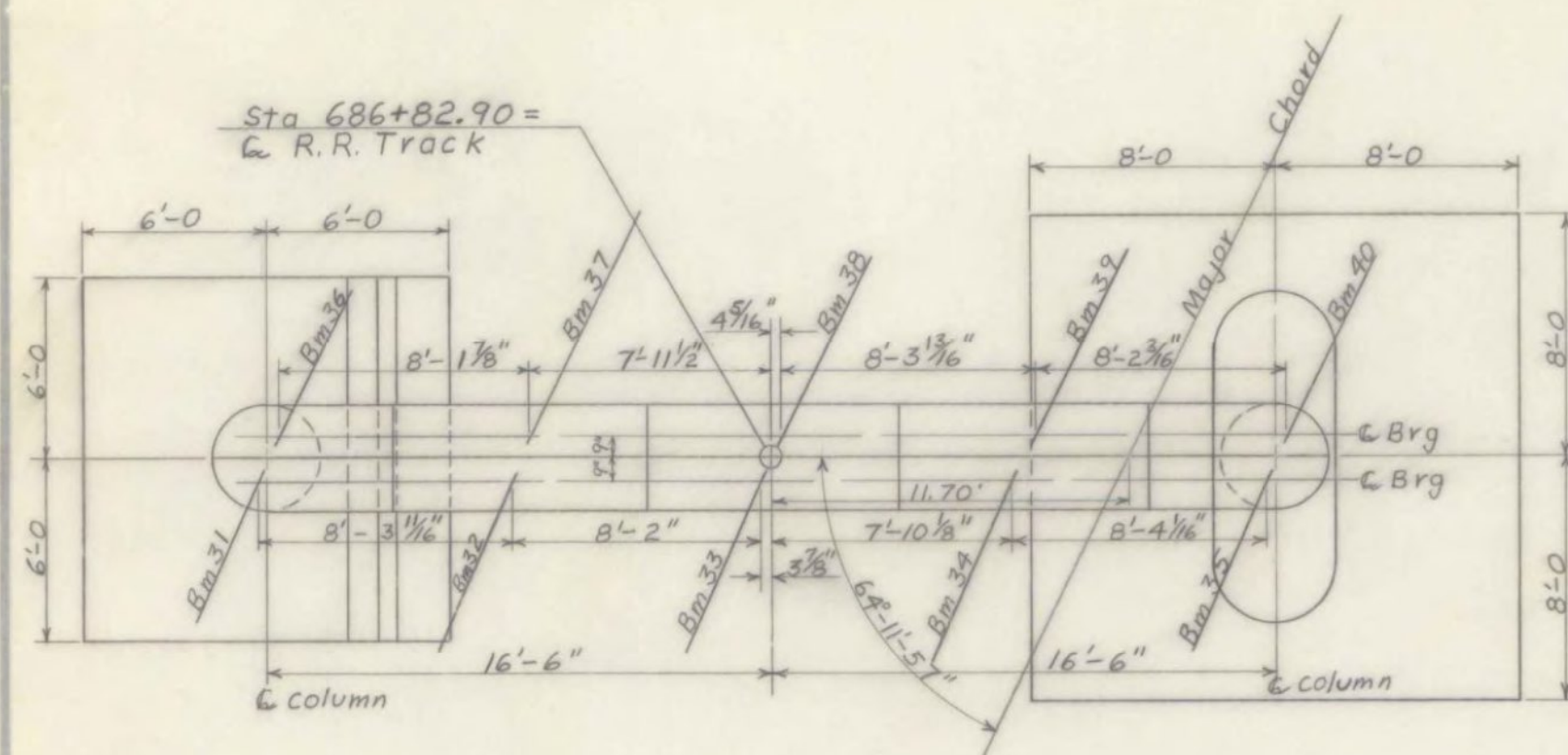
REVISED SECTION E-E
LOCATE 5-PI101 & 5-PI002 AS SHOWN
TO PROVIDE CLEARANCE FOR SWEDGE BOLTS

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 33 OF 44
BRIDGE NO. 13E
FOR REFERENCE ONLY

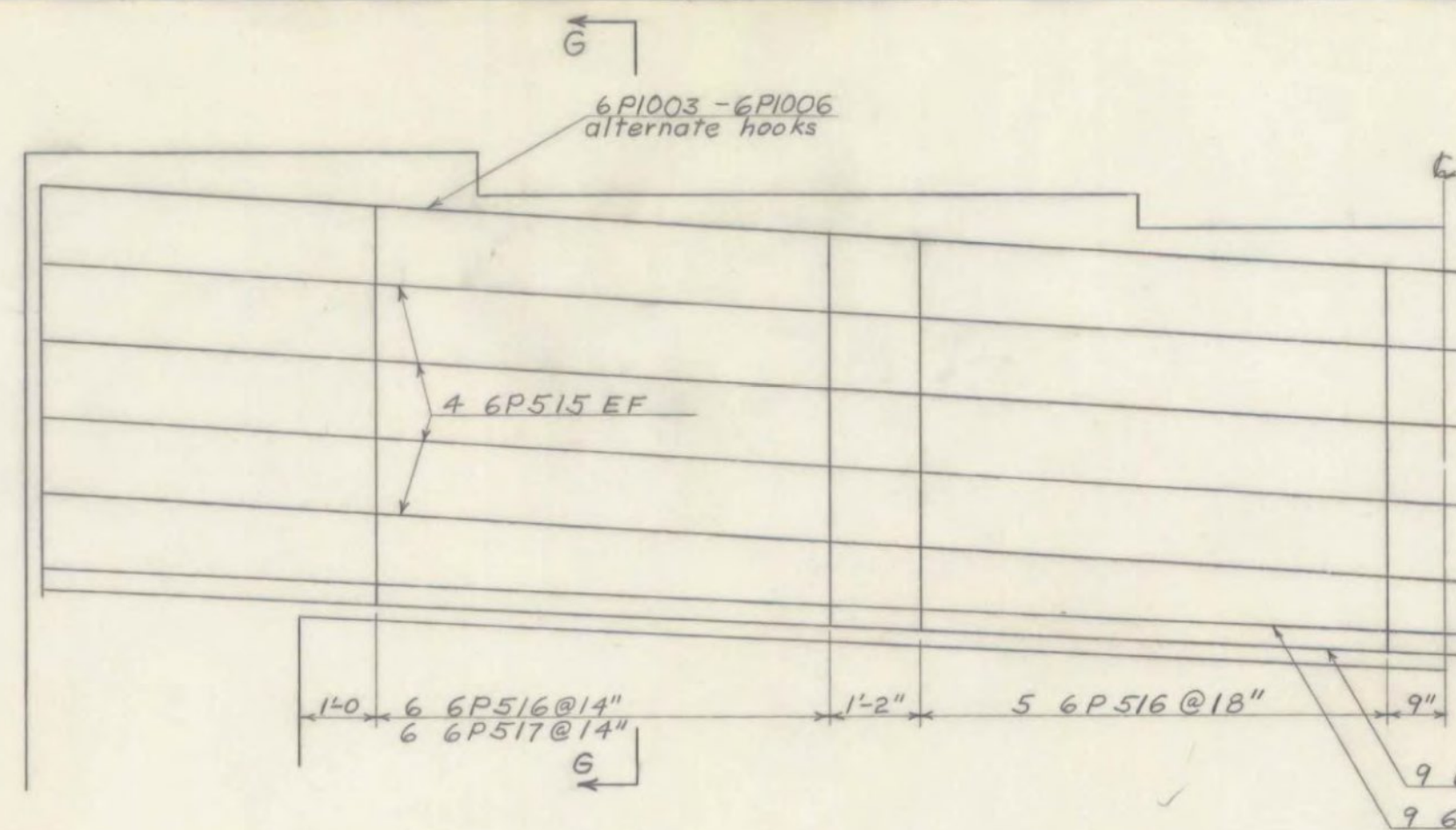
ROUTE No US 4 STA 687.30
PIER 5 (E.B.)
US 4 over D&HRR & CASTLETON RIVER
SCALE As noted
IN CHARGE WENDELL SMITH
DRAWN by Phalen CHECKED by A. Couch
PROJECT NO. AP 020-1(10)
SHEET 97 OF 359 Br 116



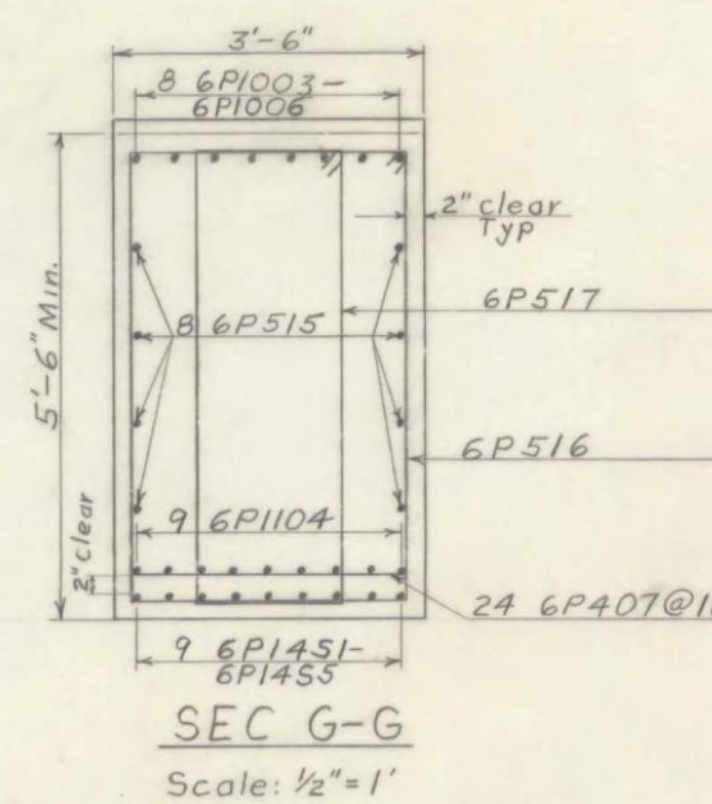
PIER 5



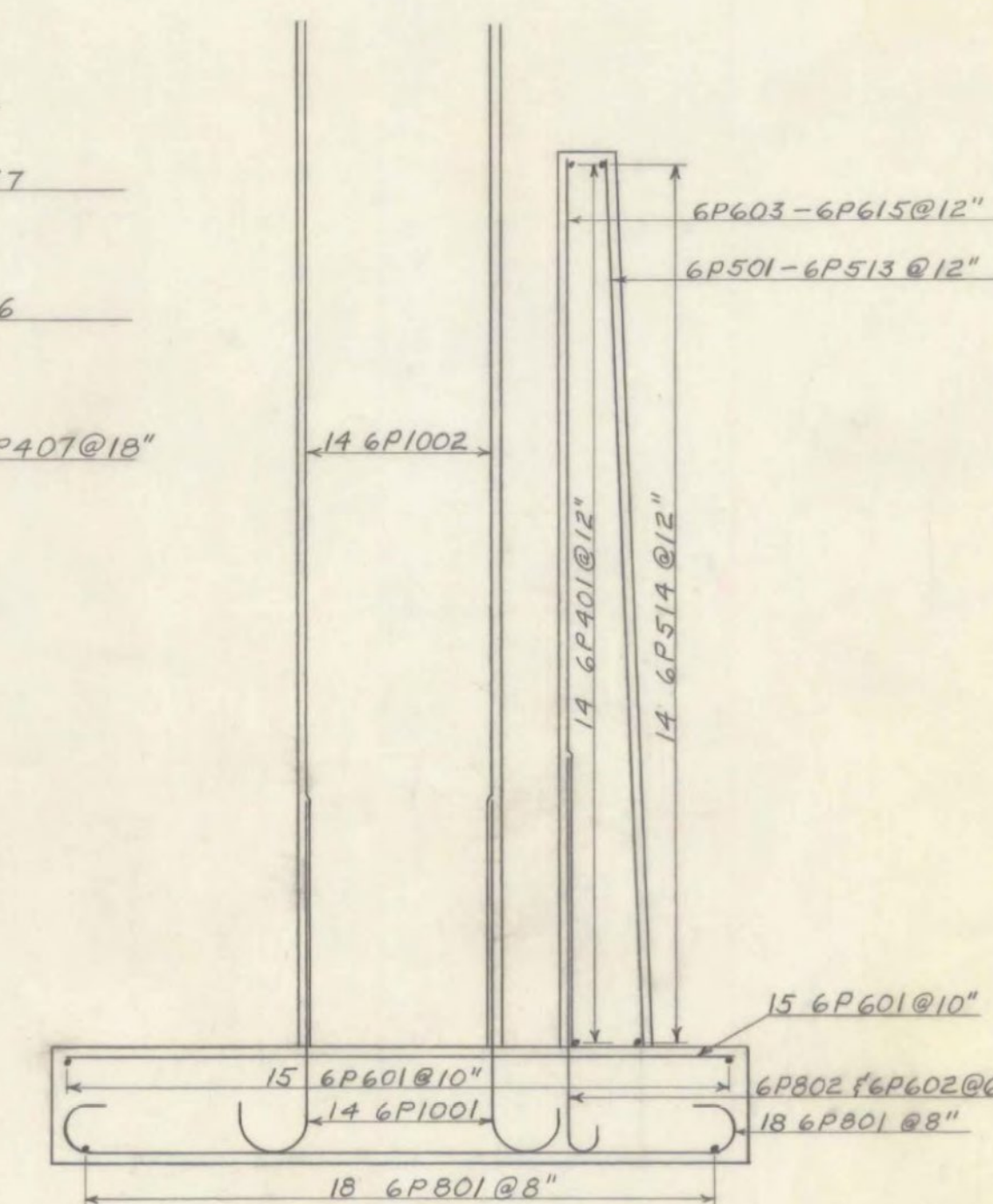
PLAN
Scale: 3/16" = 1'



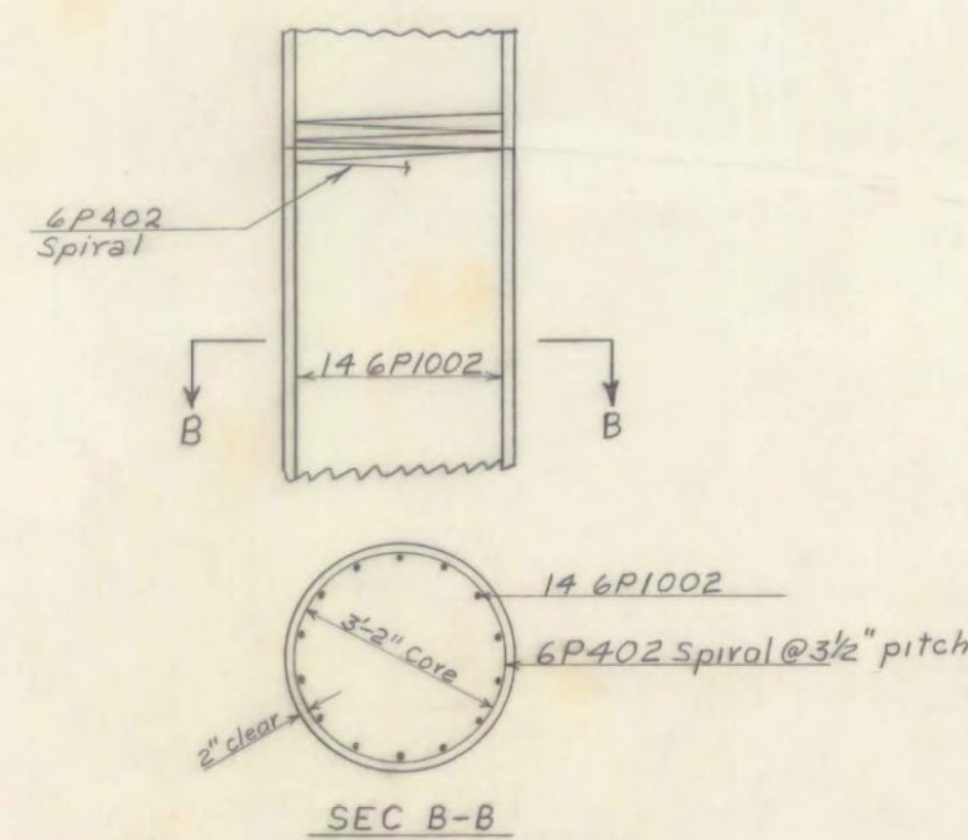
HALF ELEVATION OF CAP
Scale: 1/2" = 1'



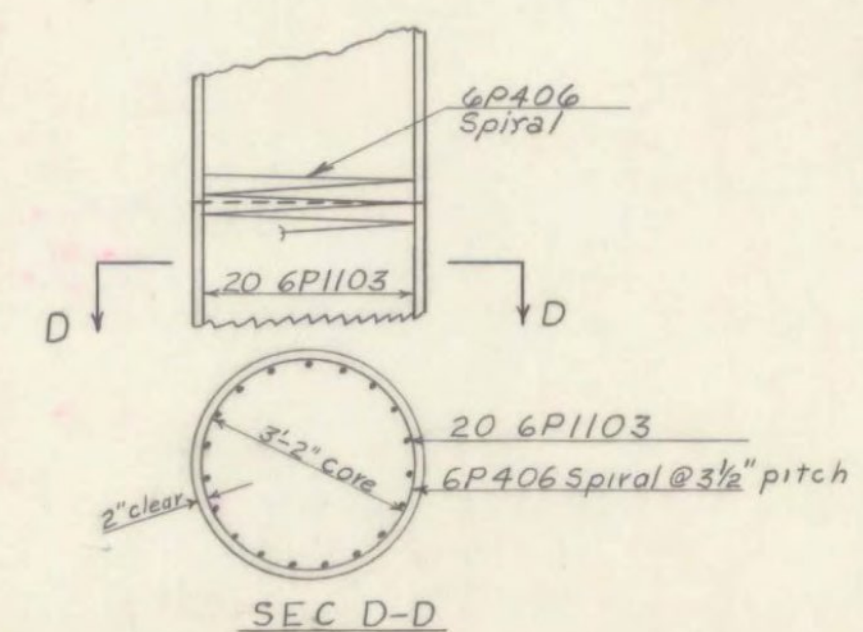
SEC G-G
Scale: 1/2" = 1'



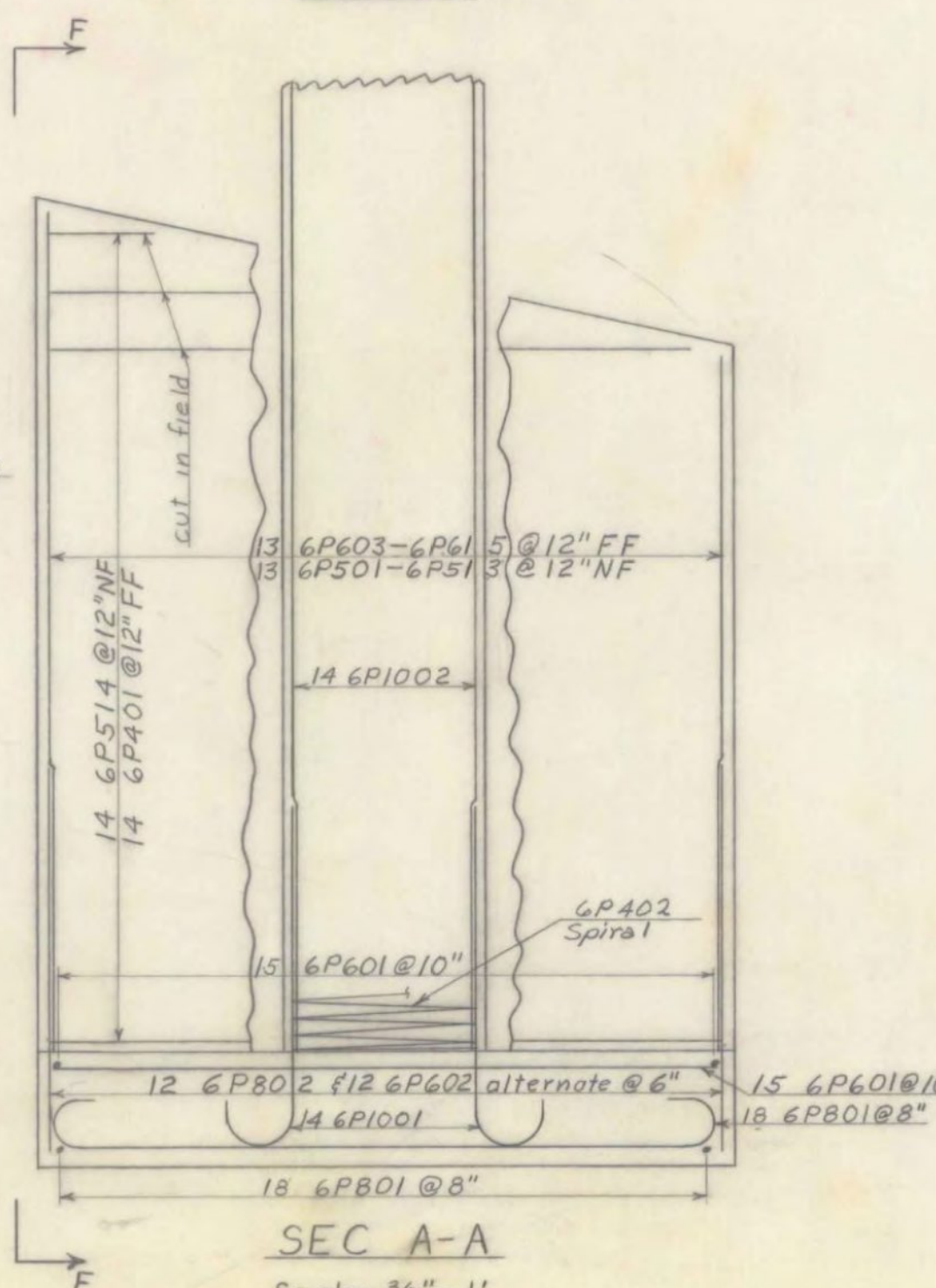
SEC F-F
Scale: 3/8" = 1'



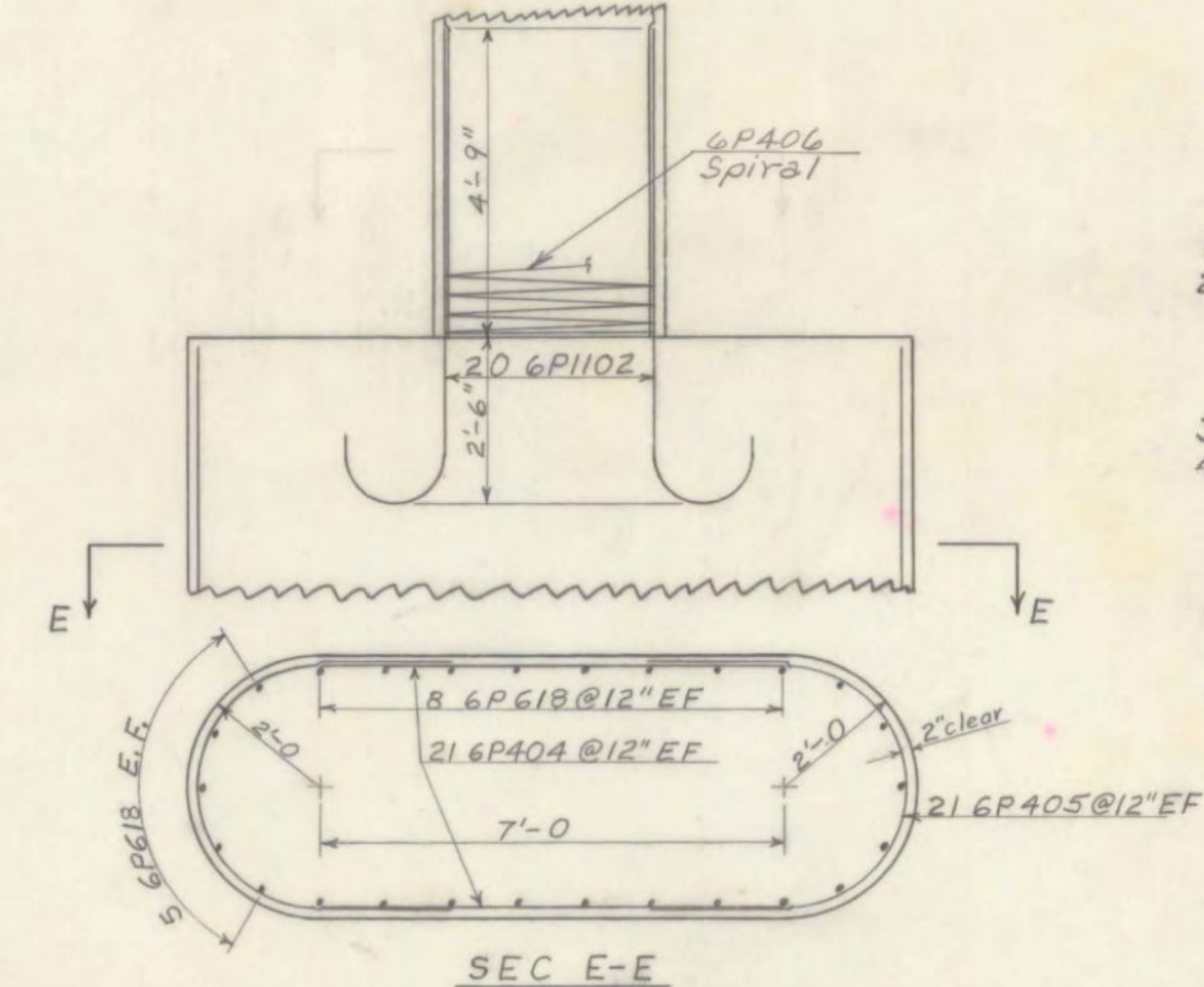
SEC B-B



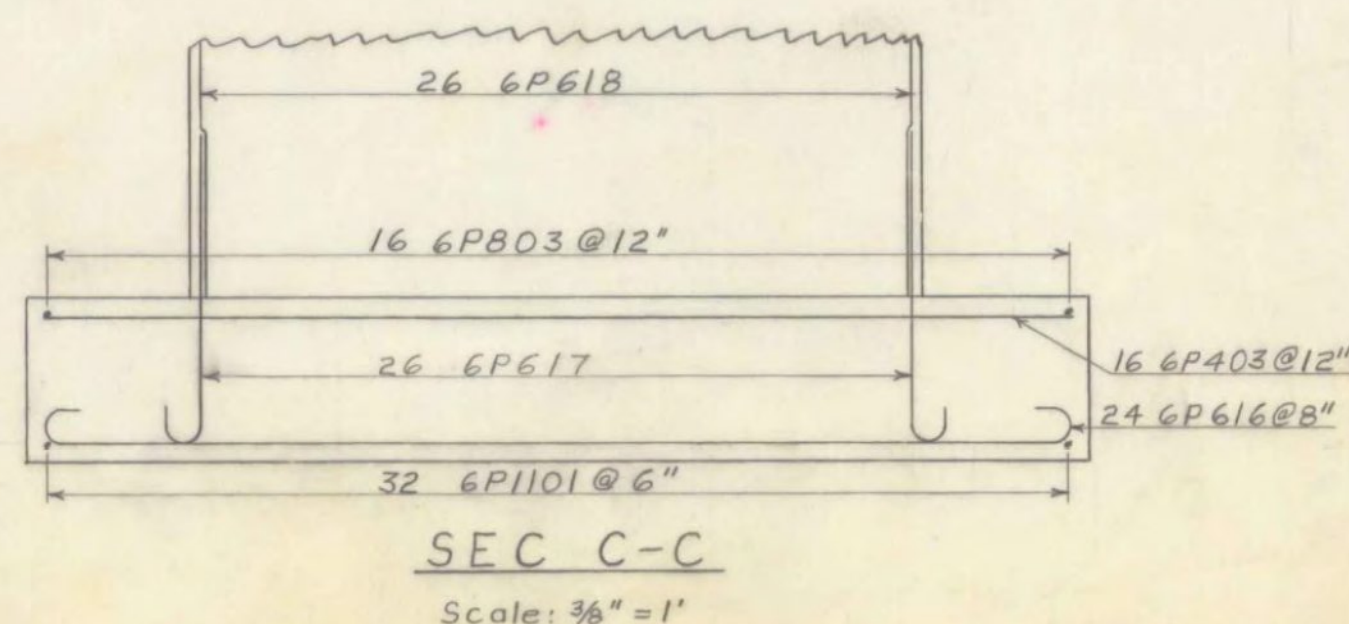
SEC D-D



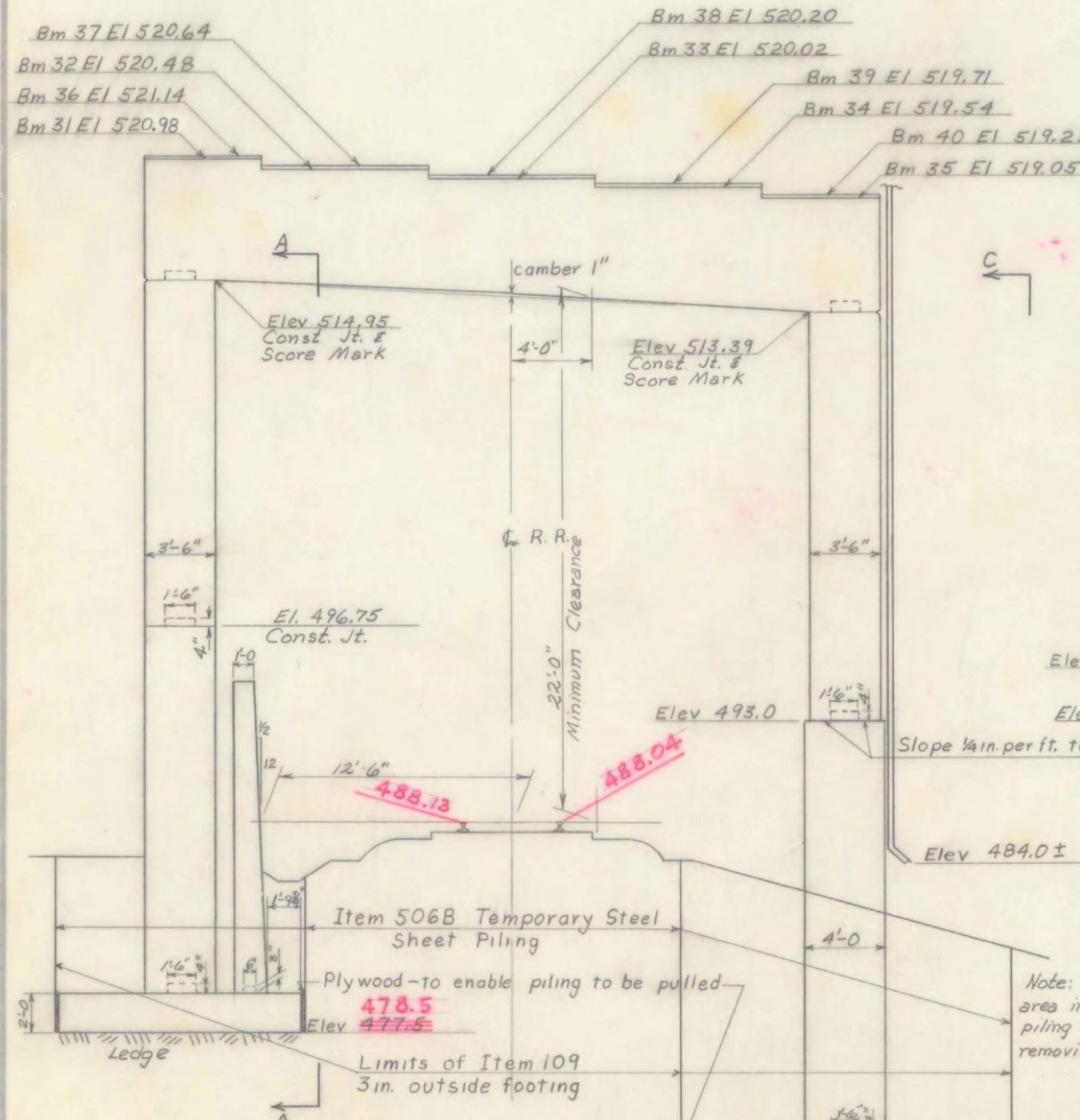
SEC A-A
Scale: 3/8" = 1'



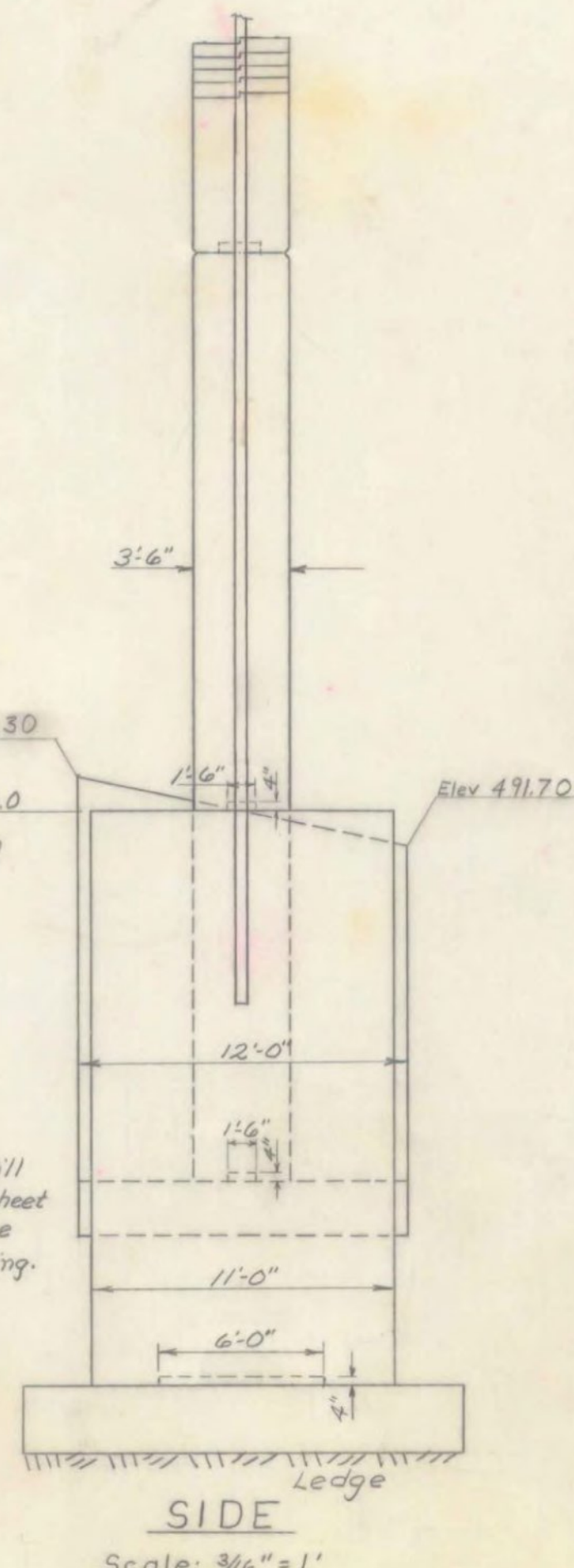
SEC E-E



SEC C-C
Scale: 3/8" = 1'



ELEVATION
Scale: 3/16" = 1'



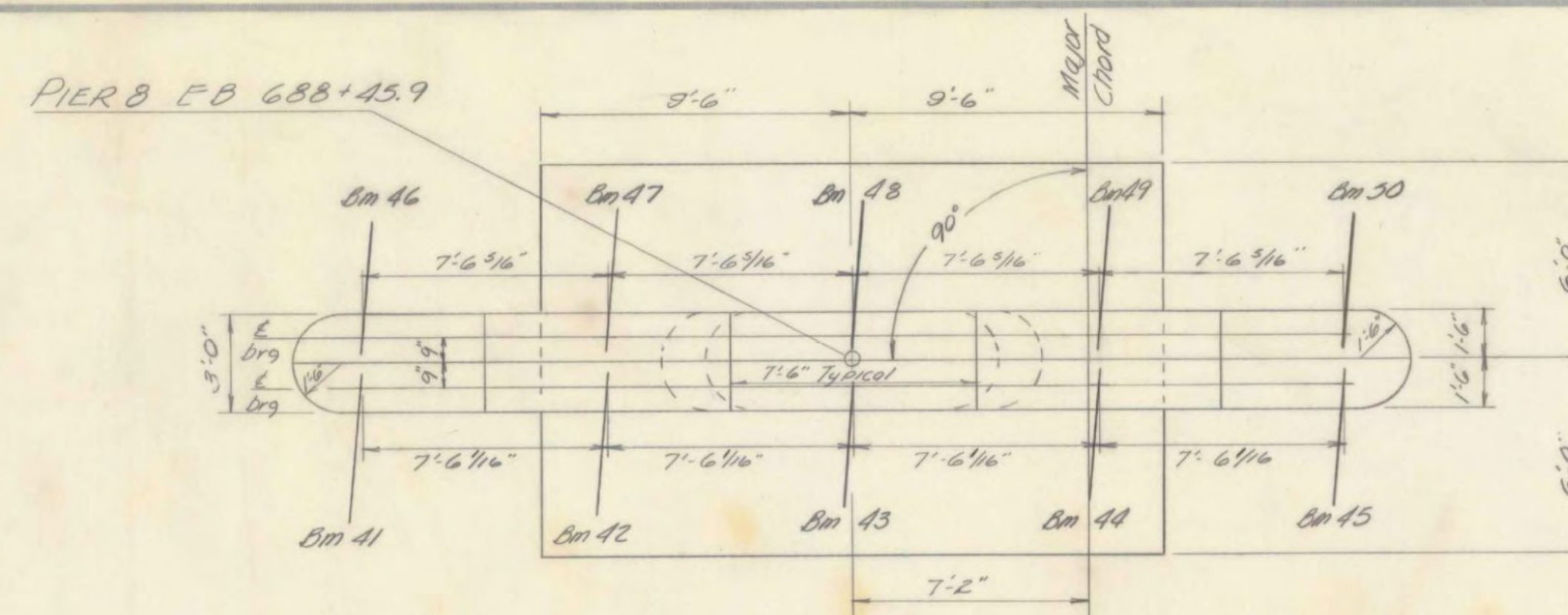
SIDE
Scale: 3/16" = 1'

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 34 OF 44
BRIDGE NO. 13E
FOR REFERENCE ONLY

- NOTES
1. For Pier notes see sheet Br 113.
 2. All Spiral Reinforcement shall conform to AASHTO Designation M 32-60 Cold Drawn Steel Wire for Concrete Reinforcement and shall be paid for under Item 402 Reinforcing Steel.
 3. Maximum footing pressure is 6.5 kips per sq. ft.
 4. False work for the cap beam shall be checked for deflection prior to pouring either in the field or submitted to the Bridge Division and this deflection added to the 1 inch final camber called for.
 5. Bridge seat elevations to be checked immediately after cap beam is poured and adjusted if necessary.
 6. Spiral shall be lapped 1 1/2 turns where ever it is spliced.

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT WEST RUTLAND
TOWN OF WEST RUTLAND
ROUTE No US 4 STA. 687+50
US 4 OVER D & H R.R. & CASTLETON R.
PIER No 6 (E.B.)
SCALE As NOTED
IN CHARGE W.M. SMITH
DRAWN BY A. COUCH CHECKED BY D. PERKINS
PROJECT No. 1020-110
SHEET 38 OF 359 BR 117



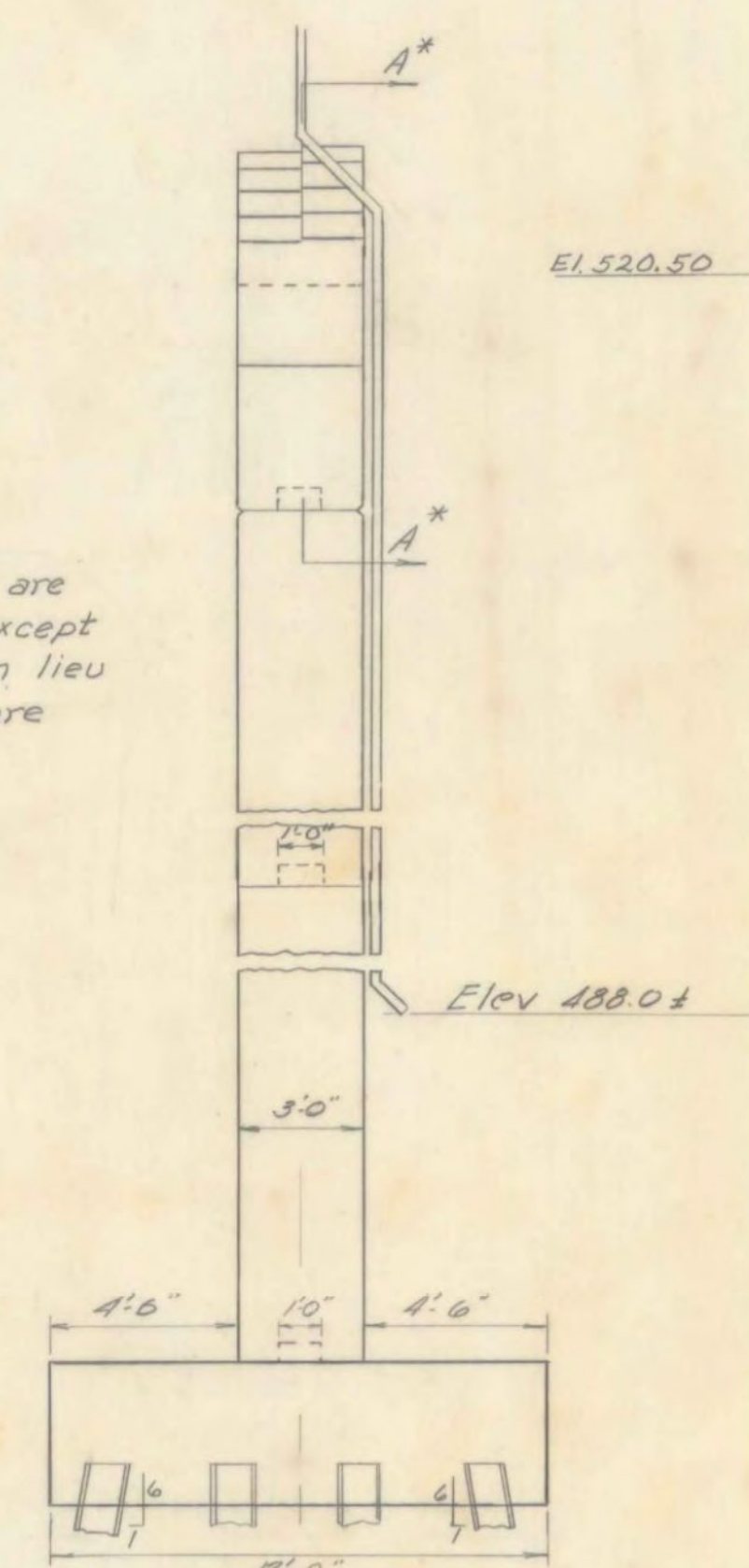
PLAN
Scale 1/4" = 1'

PLAN
Scale $\frac{1}{4}" = 1'$

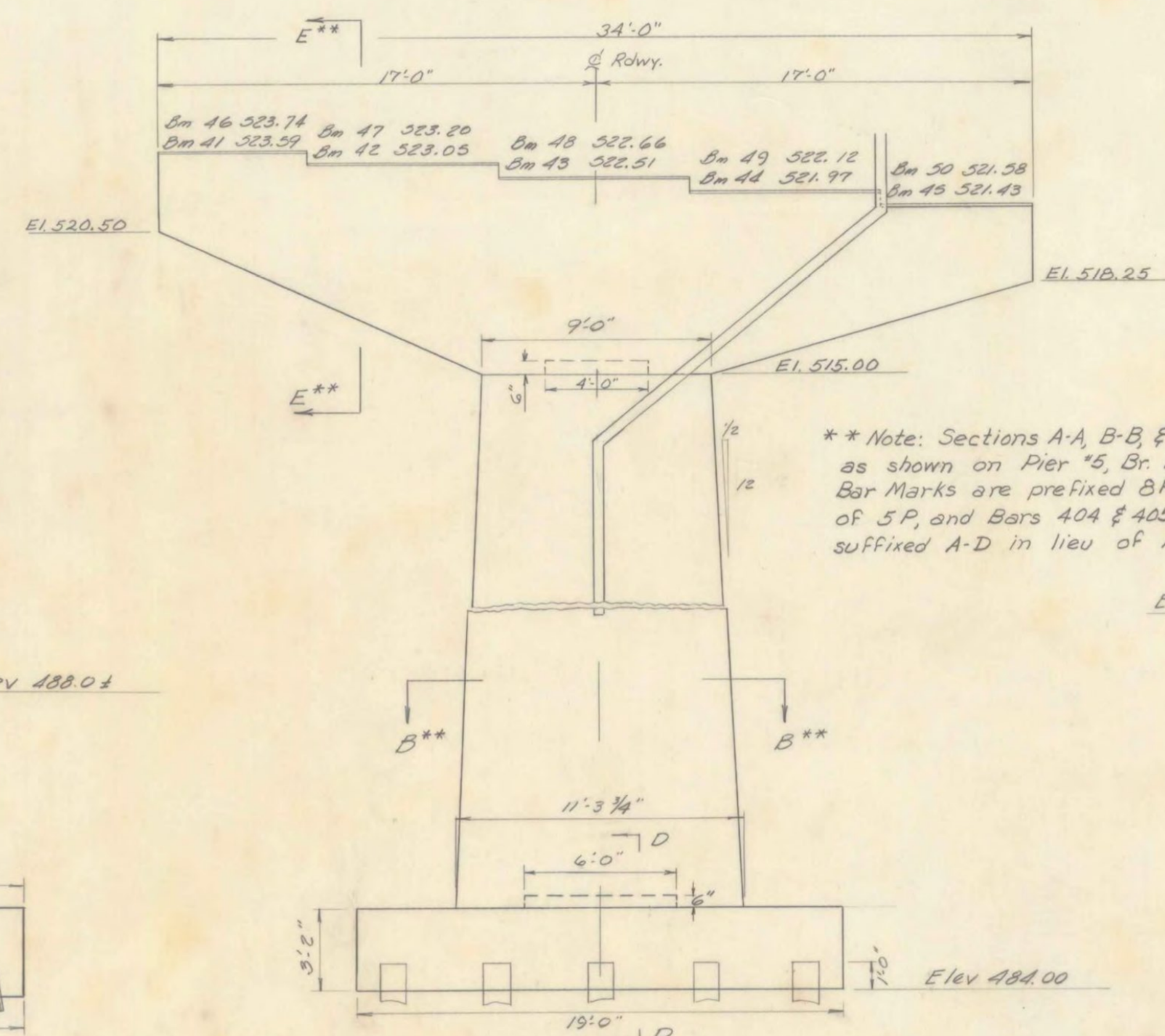
PILE TABLE				
Location	No Piles	Size	Est length of piles not exceeding plan length (to be used for only if used)	Splices estimated for piles exceeding plan length (to be used for only if used)
Pier 7	20	12BPS3	20	0
Pier 8	15	12BPS3	15	0
				4
				3

NOTES

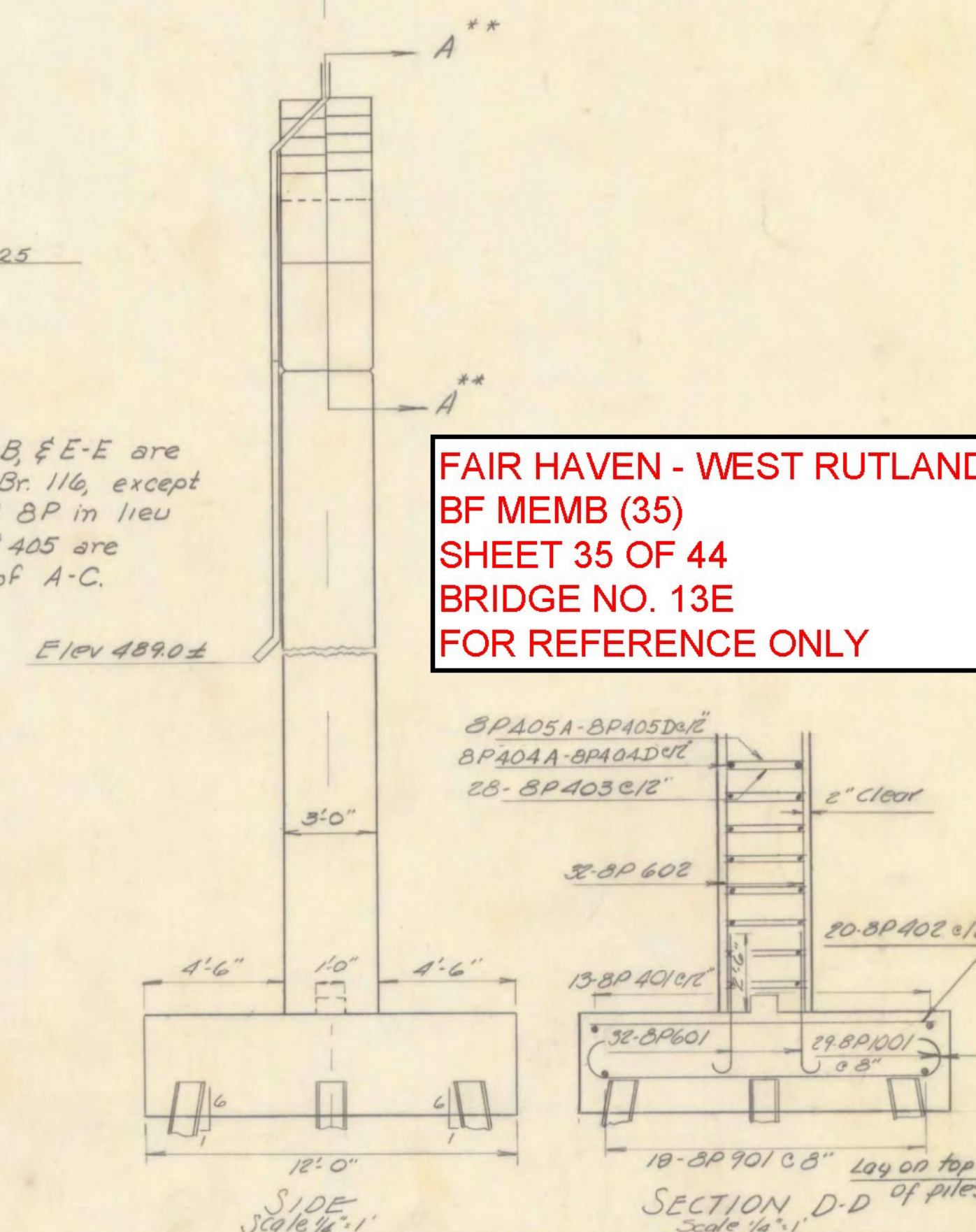
1. For pier notes see Br 113
2. Maximum pile loading Pier 7 81 kips per pile
Pier 8 90 kips per pile



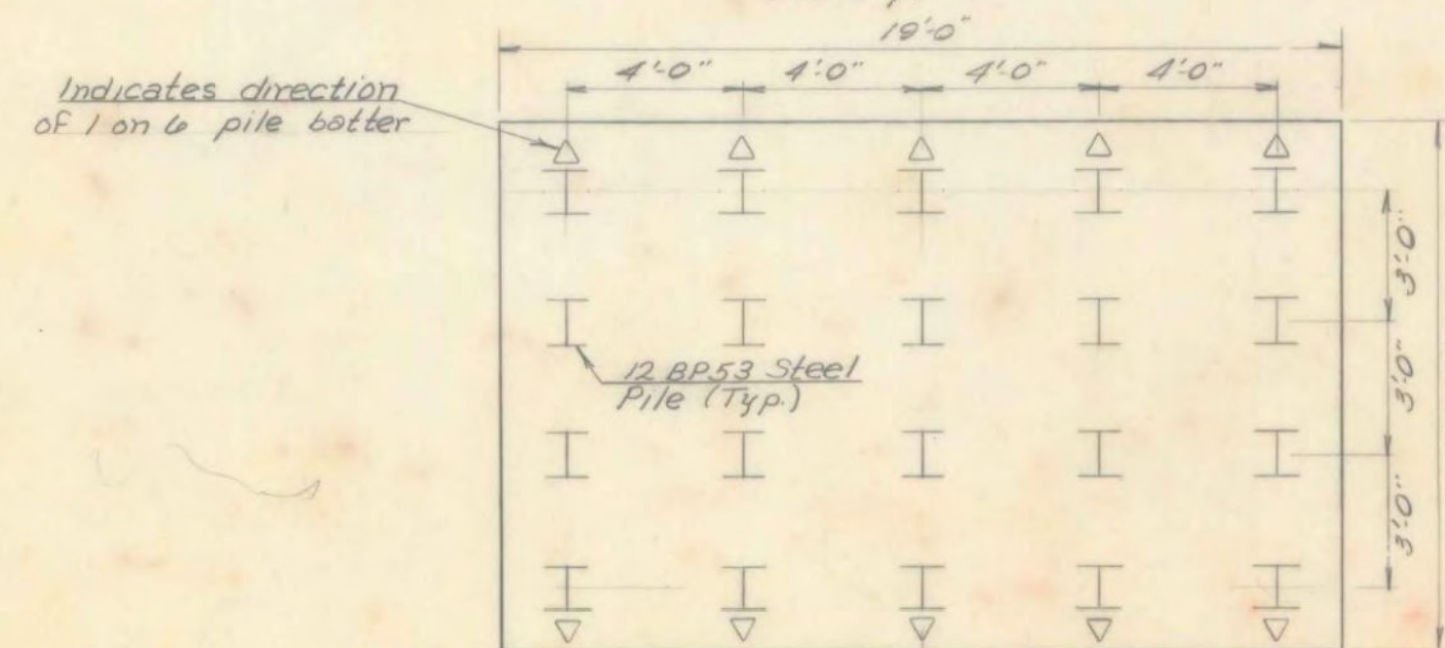
* Note: Sections A-A, B-B, & E-E are as shown on Pier #5, Br. 116, except Bar Marks are prefixed 7P in lieu of 5P, and Bars 404 & 405 are suffixed A-E in lieu of A-C.



*** Note: Sections A-A, B-B, & E-E are as shown on Pier #5, Br. 116, except Bar Marks are prefixed BP in lieu of SP, and Bars 404 & 405 are suffixed A-D in lieu of A-C.*

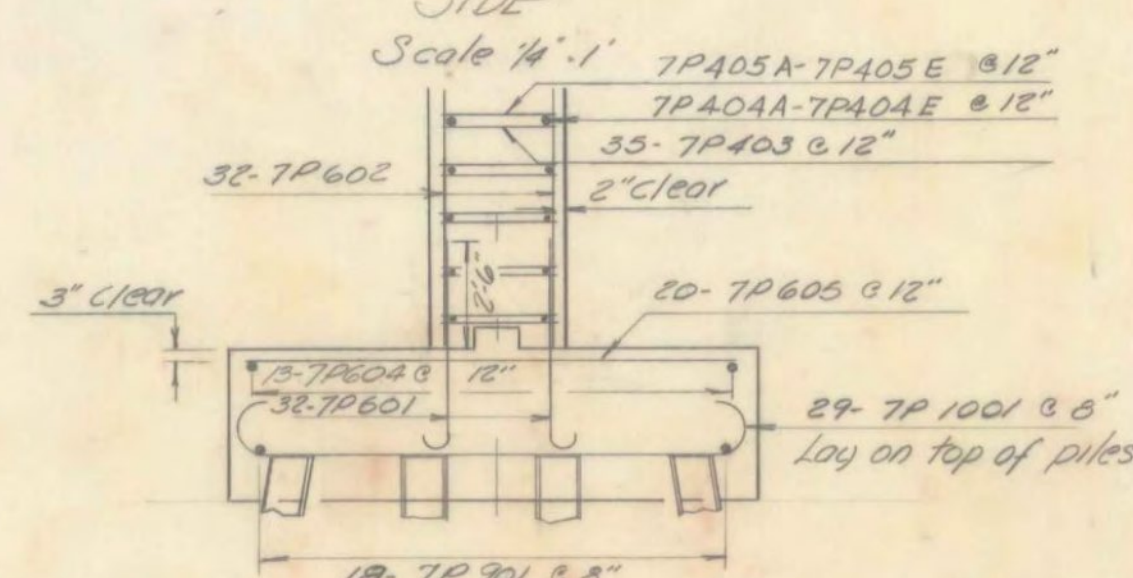


FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 35 OF 44
BRIDGE NO. 13E
FOR REFERENCE ONLY

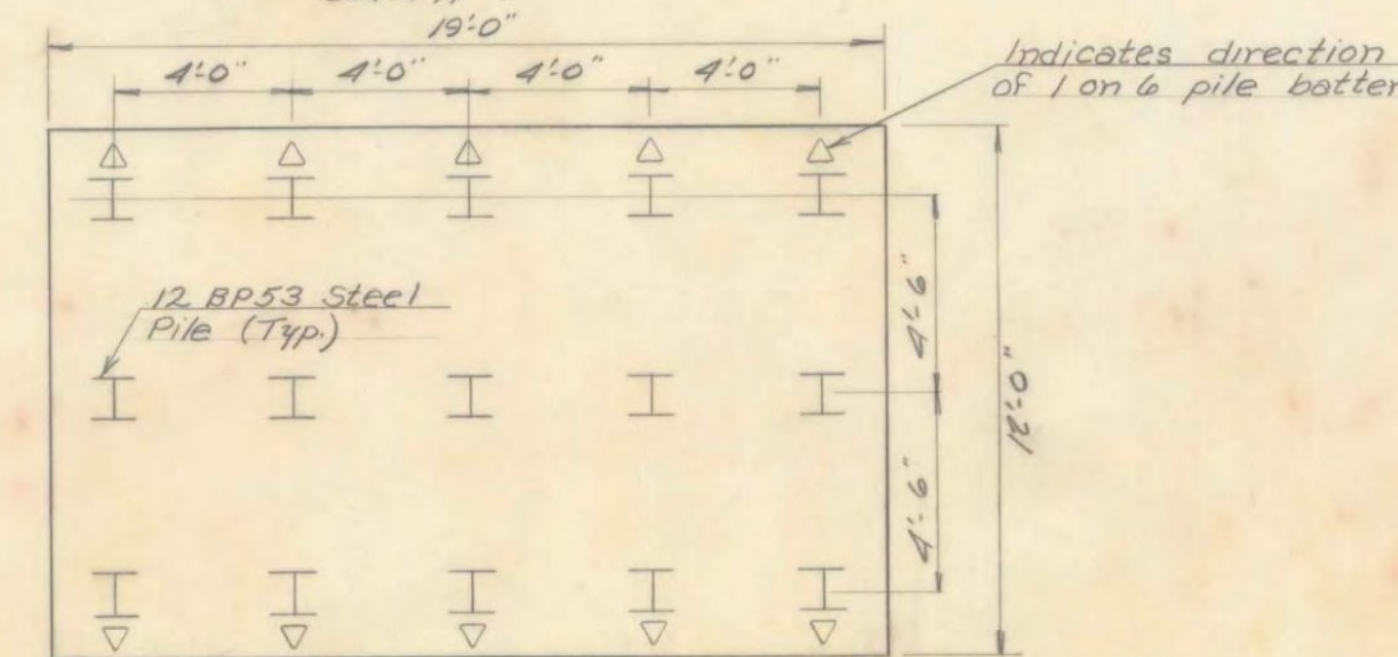


PILE LAYOUT PLAN
Scale 1/4" = 1'

PIER 7



SECTION D-D
Scale 1/4" = 1'



PILE LAYOUT PLAN
Scale $\frac{1}{4}'' = 1'$

PIER 8

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT - WEST RUTLAND
TOWN OF WEST RUTLAND
ROUTE NO US 4 STA 687+50
PIER 7 & PIER 8 (E.B.)

US 4 over D&H RR & CASTLETON RIVER

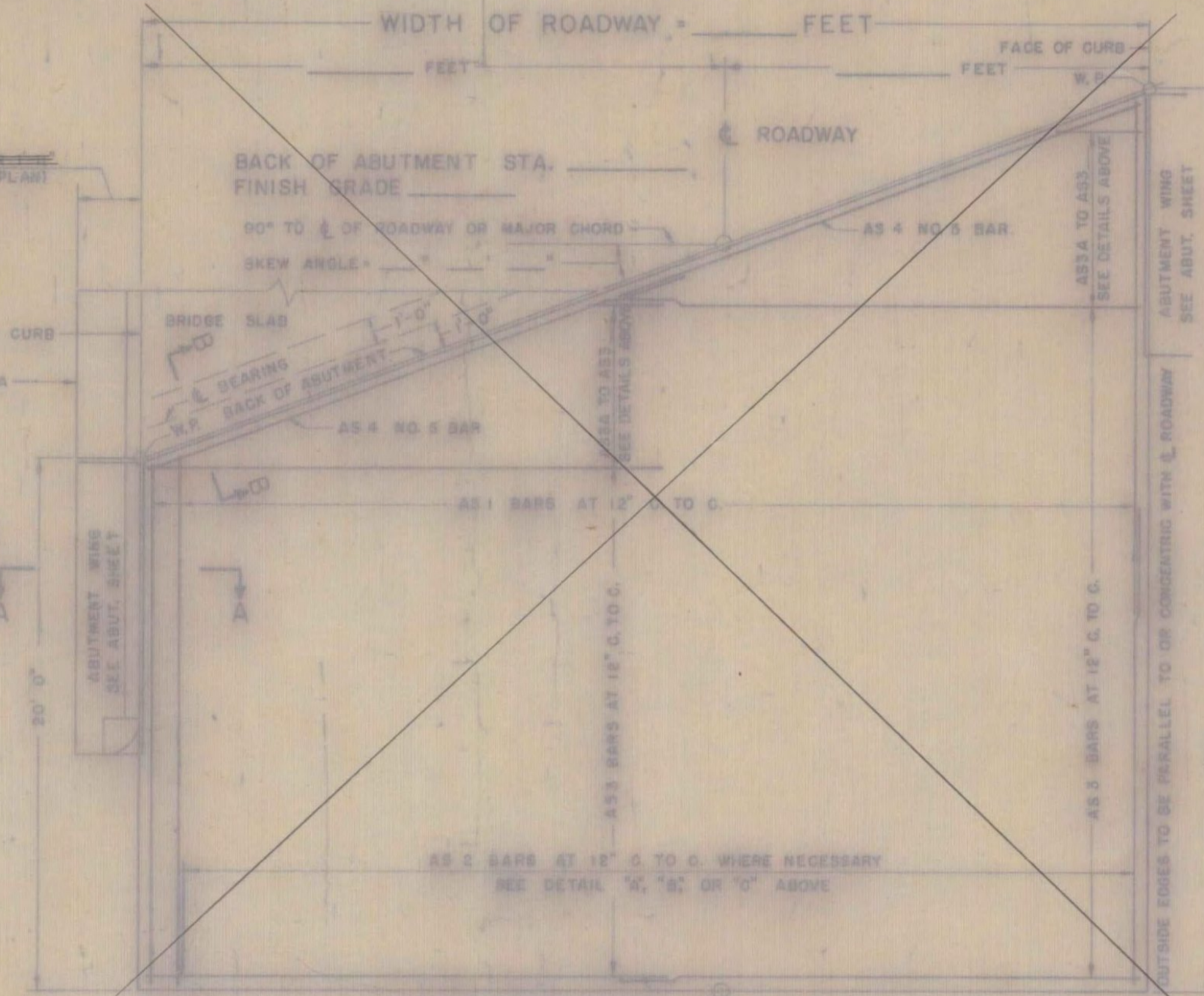
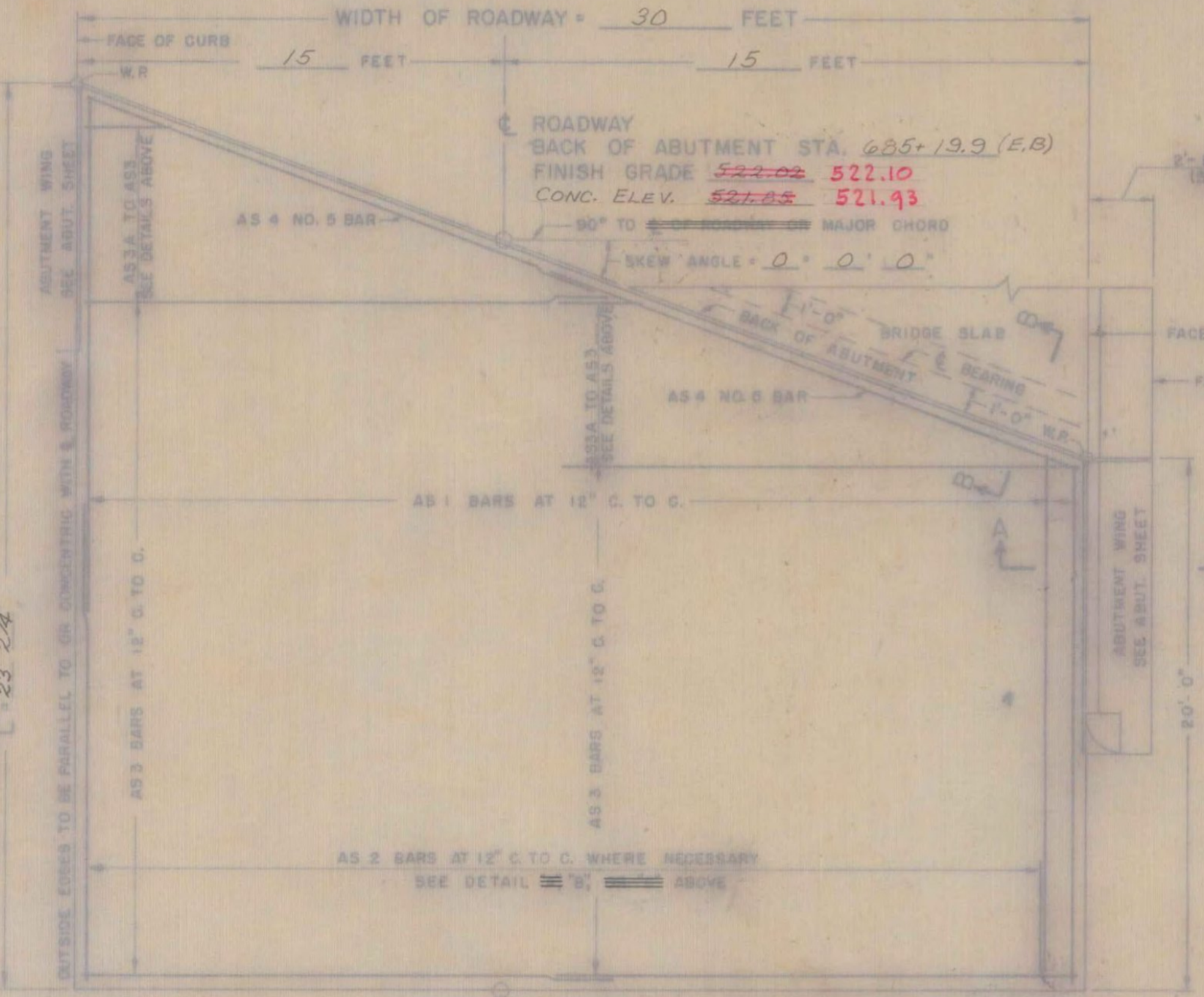
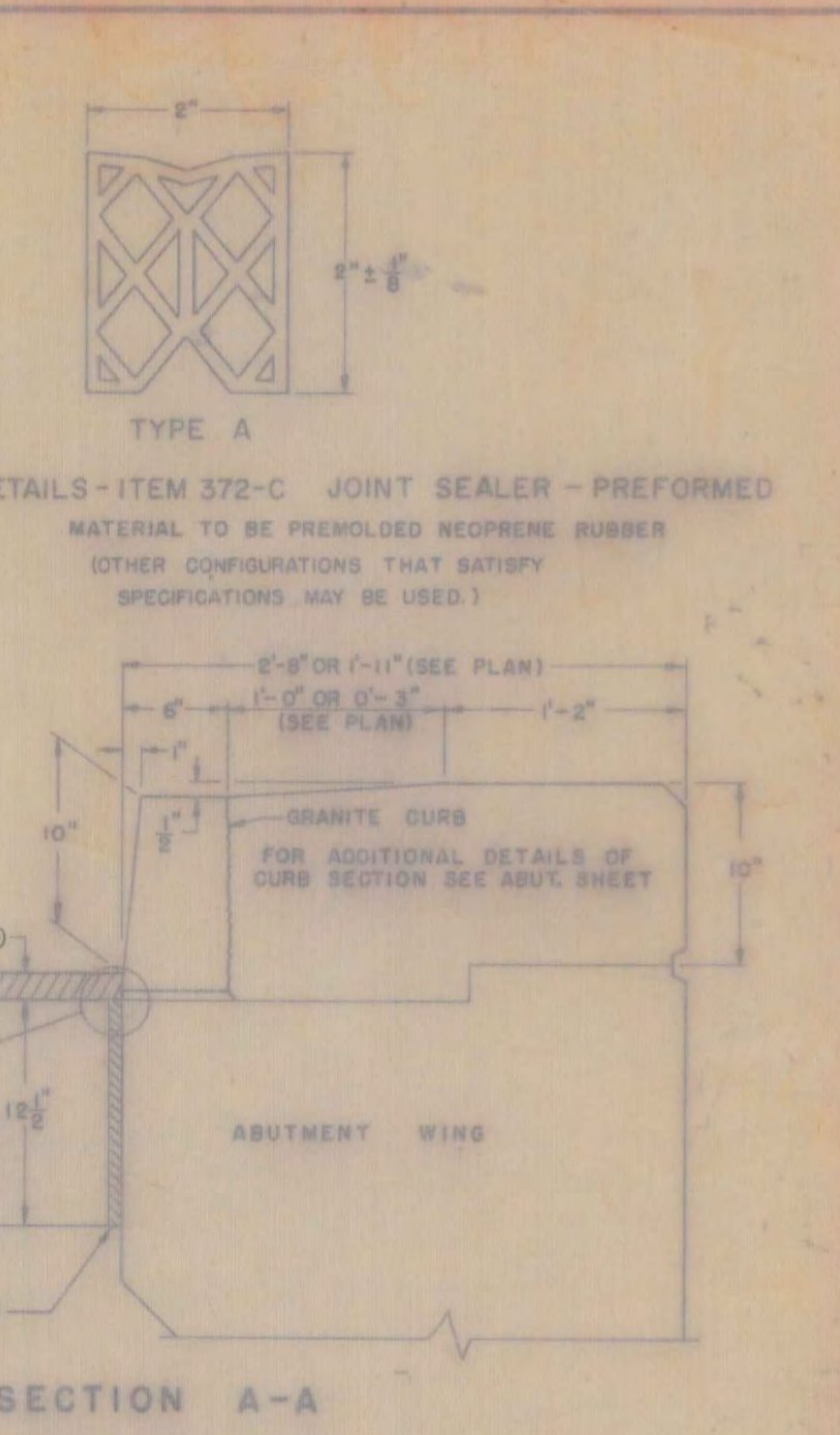
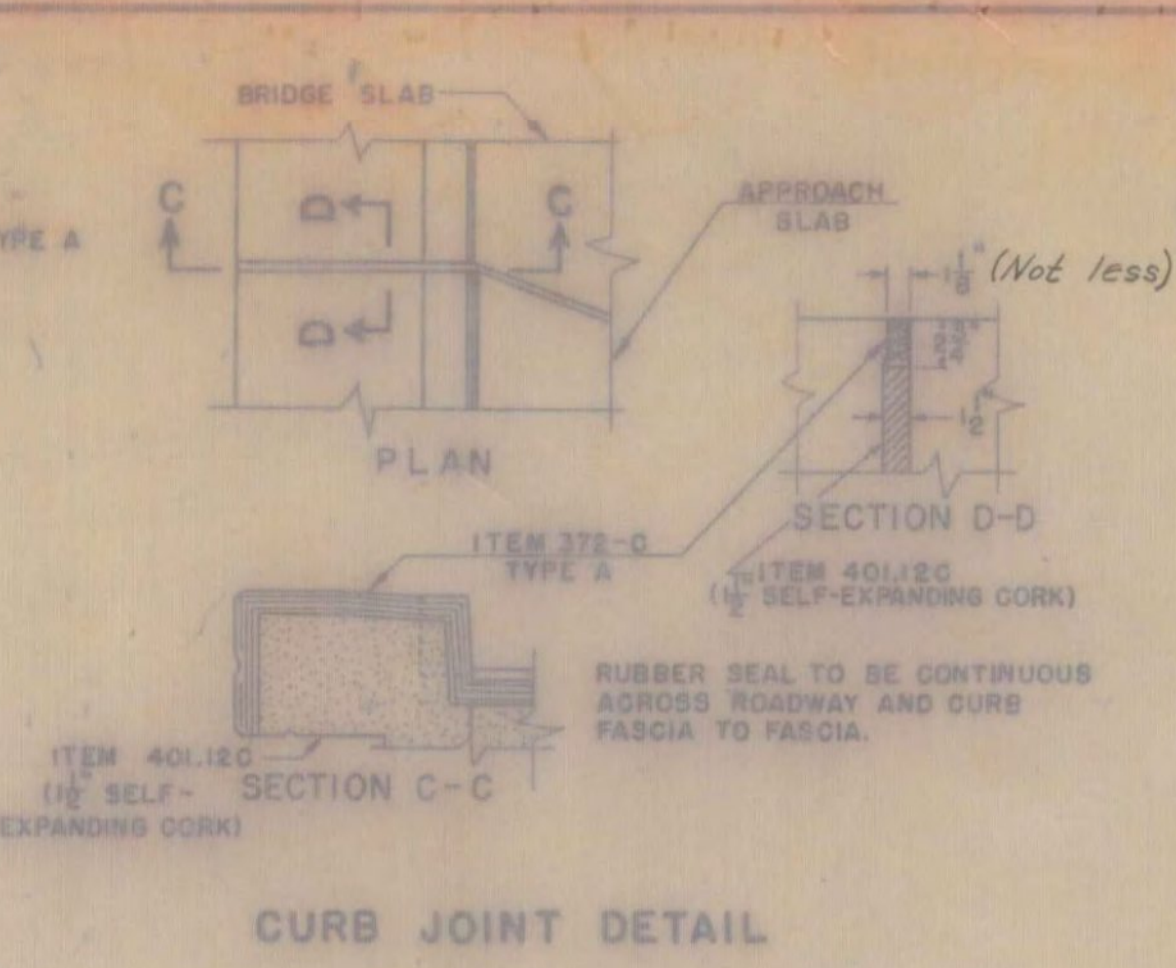
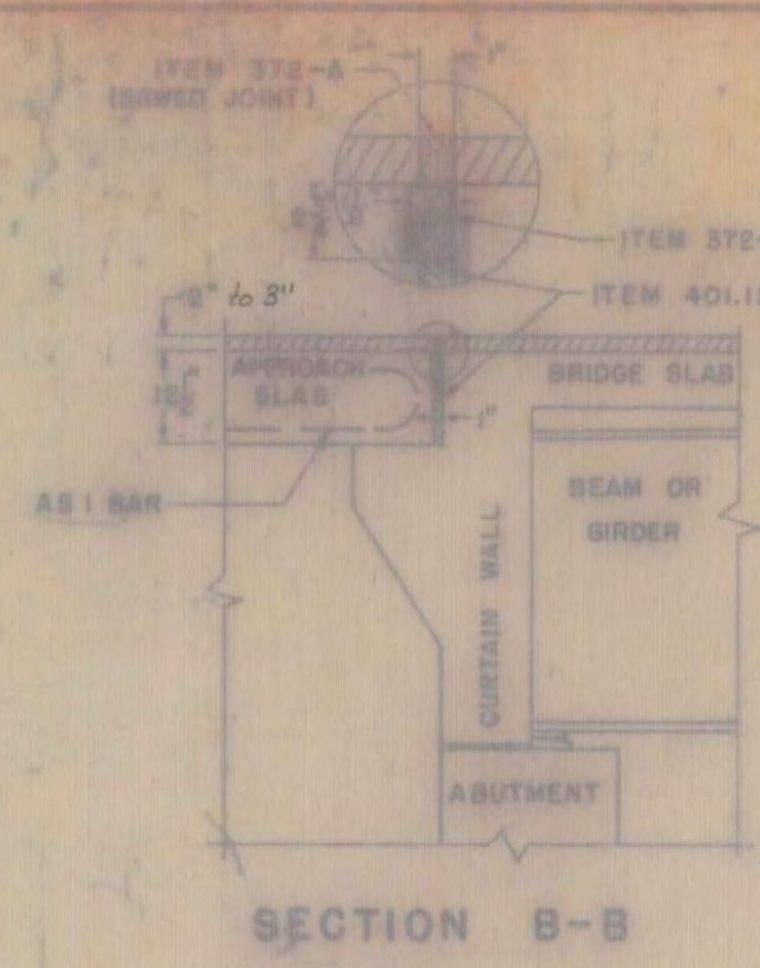
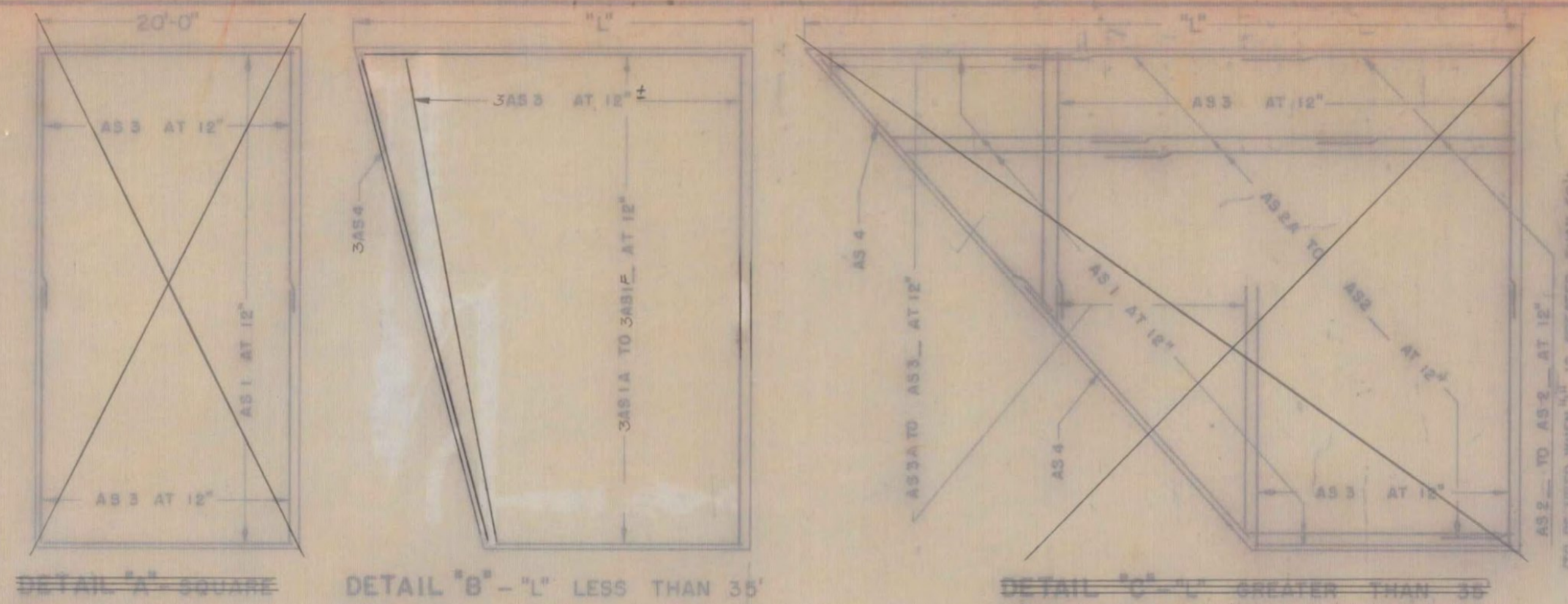
SCALE $\frac{1}{4}'' = 1'$

IN CHARGE Wendell Smith

DRAWN BY Phalen CHECKED BY A. Couch 366
J.C.

PROJECT NO. AP020-1(10)

SHEET 99 OF 359 Br 118 - -

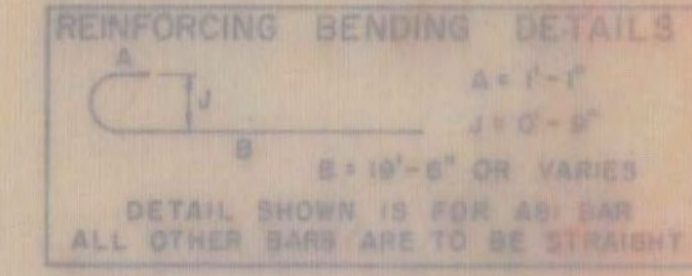


GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR HS20-44 LOADING.

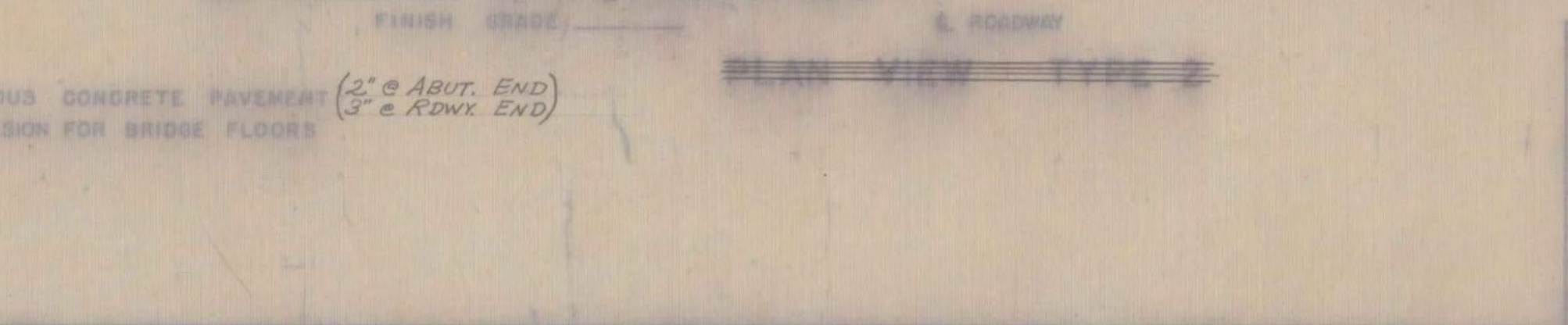
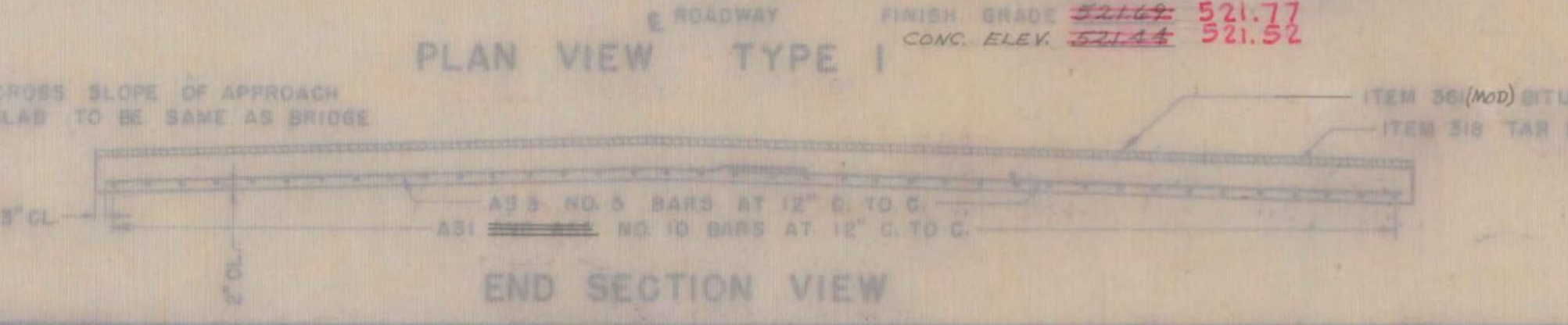
2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.

FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 36 OF 44
BRIDGE NO. 13E
FOR REFERENCE ONLY



LIST OF QUANTITIES

ITEM NO.	ITEM	UNIT
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.
361	BITUMINOUS CONCRETE PAVEMENT (MOD)	TONS
372-A	JOINT SEALER - HOT POURED	L.F.
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.
401-B	CONCRETE CLASS B	CY.
402	REINFORCING STEEL	L.B.



STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE
SB-AS-65

PROJECT WEST RUTLAND
TOWN OF WEST RUTLAND
ROUTE NO. U.S. #4 STA. 687+50
U.S. 4 OVER D.H. R.R. & CASTLETON RIVER
APPROACH SLAB No. 3 E.B.
NOT TO SCALE
IN CHARGE W. SMITH
DESIGNED BY M. TRIPP CHECKED BY F. Gilman
PROJECT NO. AP-020-1(10)
SHEET 102 OF 359

REVISIONS AND CONNECTIONS
1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED 4/10/65 WBT.
2. DIMENSIONS OF JOINT SEALER TYPE B REVISED 9/23/65 WBT.
3. JOINT BETWEEN CURB AND SLAB REVISED, BITUMINOUS CONCRETE REVISED TO 2" QUANTITY TOTALS REMOVED. 12/7/65 WBT.

DRAWN BY: W. J. Van Dusen
TRACED BY: W. J. Van Dusen
CHECKED BY: W. J. Van Dusen
RECOMMENDED FOR APPROVAL: [Signature] DATE 3/4/65
RECOMMENDED FOR APPROVAL: [Signature] DATE 2/10/65
APPROVED BY: [Signature] DATE 2/10/65

TO BE USED FOR BRIDGE AT STATION 687+50
LOCATION U.S. #4 OVER D.H. RAILROAD & CASTLETON RIVER

LIST OF BRIDGE SHEETS

BR-300	PLAN AND ELEVATION
BR-301	BRIDGE QUANTITY SHEET
BR-302	PRELIMINARY INFORMATION SHEET
BR-303	BORING PLAN AND DETAIL
BR-304	W.B. FRAMING, CURB AND RAILING PLAN
BR-305	E.B. FRAMING, CURB AND RAILING PLAN
BR-306	ABUTMENT No. 1 W.B.
BR-307	ABUTMENT No. 2 W.B.
BR-308	ABUTMENT No. 3 E.B.
BR-309	ABUTMENT No. 4 E.B.
BR-310-313	APPROACH SLABS
BR-314-315	REINFORCING STEEL SCHEDULE

STANDARD SHEETS

SCB-38-65	SCB-D6-65 Det. A, B, C, E	SB-R1-64 Sheets 1 & 2
SCB-D1-65	SCB-D7-65 Det. C, D, E	SB-R2-65
SCB-D2-65 All details	SCB-D8-65 All details	
SCB-D4-65	SCB-D9-65 Det. A	

NOTES

- For general notes see Std. Structures SCB-D1-65
- For superstructure details see Std. Structures SCB-38-65 and Typical Bridge Section on sheet BR-305, E.B. Framing, Curb and Railing Plan.
- For Curve Layout and Framing Plans see Sheets 304 & 305.
- For Quantities see BR-301, Bridge Quantity Sheet.
- Elevation datum is Sea Level based on nearest U.S. Government Control.
- Approach Slabs shall be constructed as part of Stage 1 Construction.
- Item 440, Water Repellent, shall consist of furnishing and applying Water Repellent on exterior concrete surfaces on top of the safety walk, on the fascia and back to the drip bead under the slab and on the exposed faces of abutments not otherwise treated.
- All Treated Timber Piles shall be driven to the designed bearing capacity of 20 tons per pile. In any case, these piles are to be driven to penetrate original ground at least 10' using whatever means are necessary.
- Item 505 Pile Loading Tests are to be used when, in the opinion of the Engineer, the designed load carrying capacity of the piles may not be achieved based on information obtained when test piles are driven.
- Shop Drawings for Item 556-C, Granite Bridge Curb, shall be submitted in triplicate to the State of Vermont Department of Highways for approval before fabrication.

REFERENCE SHEETS

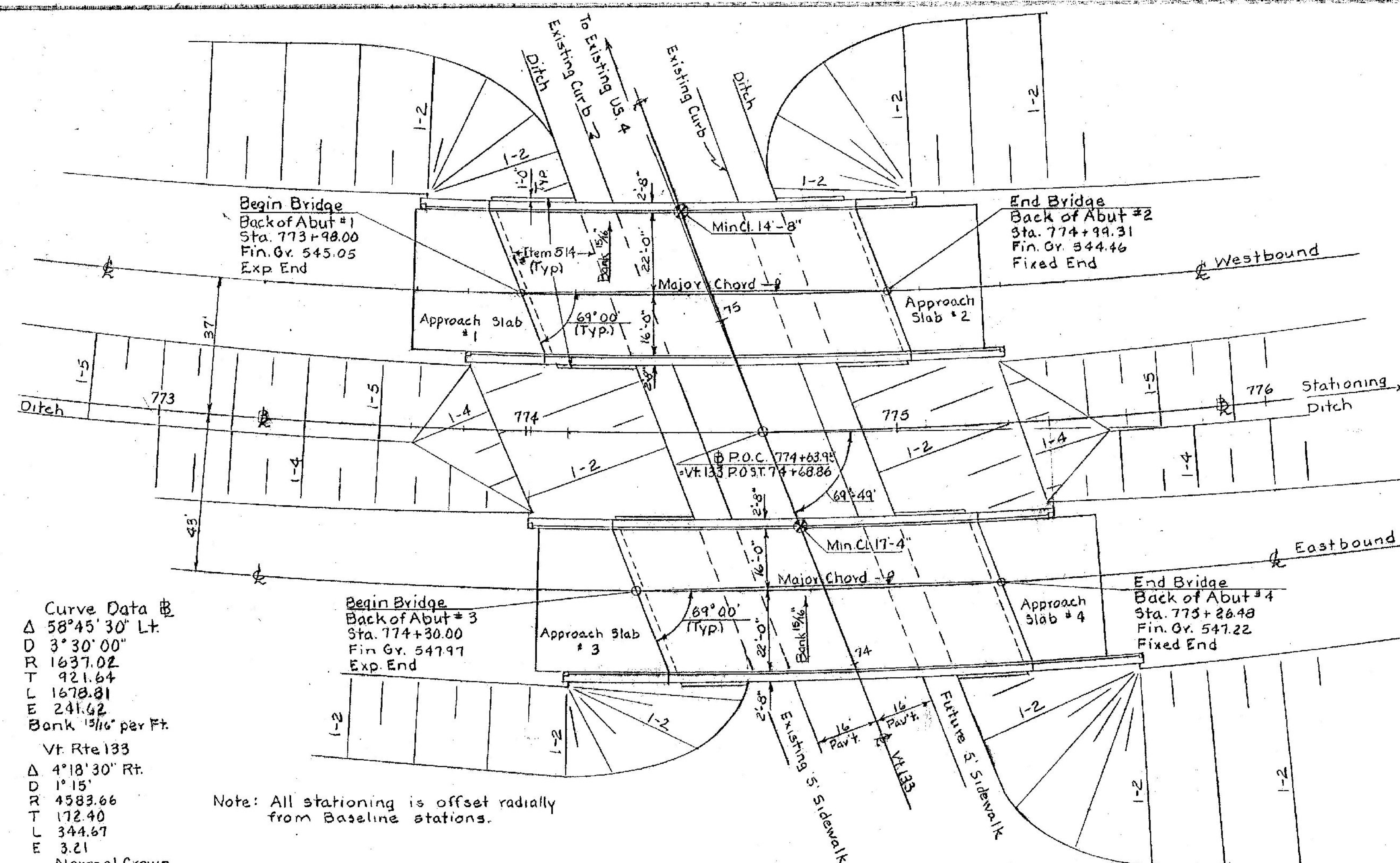
Roadway Plan Sheet	Sta. 762 - 778
Profile	162 - 778
US 4 x-section	773+00 - 774+50
"	775+00 - 776+00
"	776+50 - 778+00
Vt. Route 133 x-section Sheet	Sta. 73+50 - 74+50
"	74+67 - 75+50

**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 38 OF 44
BRIDGE NO. 15E
FOR REFERENCE ONLY**

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT WEST RUTLAND
TOWN OF WEST RUTLAND
ROUTE NO. U.S. 4 STA. 774+30 ±
RELOC. U.S. 4 OVER VT. 133
PLAN AND ELEVATION
SCALE 1" = 20'
IN CHARGE W. Smith
DRAWN BY Quellette CHECKED BY J. J. J. Dec 65
PROJECT NO. 1020-1101
SHEET 143 OF 322 BR-300
Sheet 15a of 170 Sheets

Stage 2 Construction

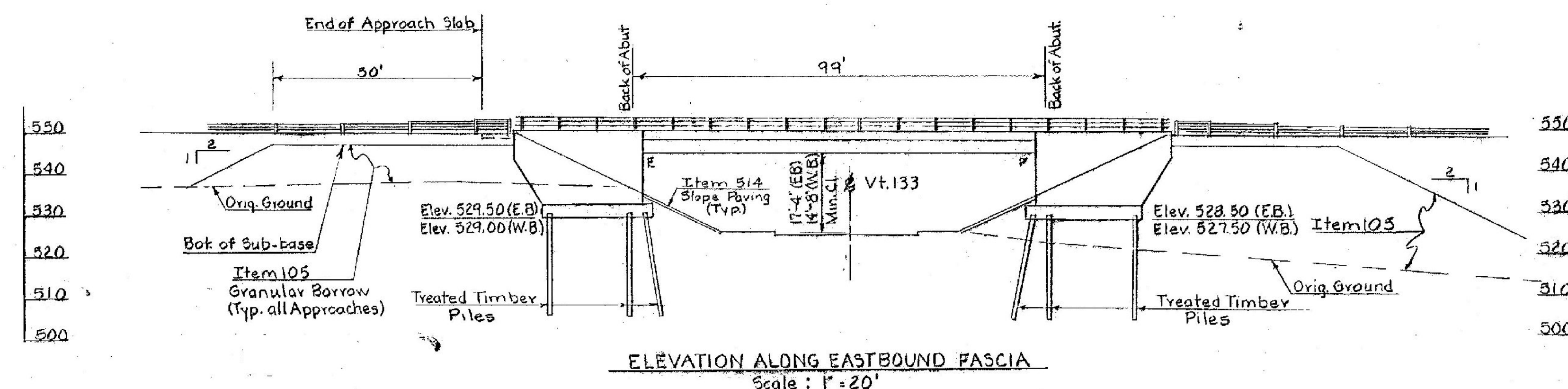


Curve Data B
Δ 58°45'30" Lt.
D 3°30'00"
R 1637.02
T 921.64
L 1678.81
E 241.62
Bank 1/16" per Ft.
Vt. Rte 133
Δ 4°18'30" Rt.
D 1°15'
R 4583.66
T 172.40
L 344.67
E 3.21
Normal Crown

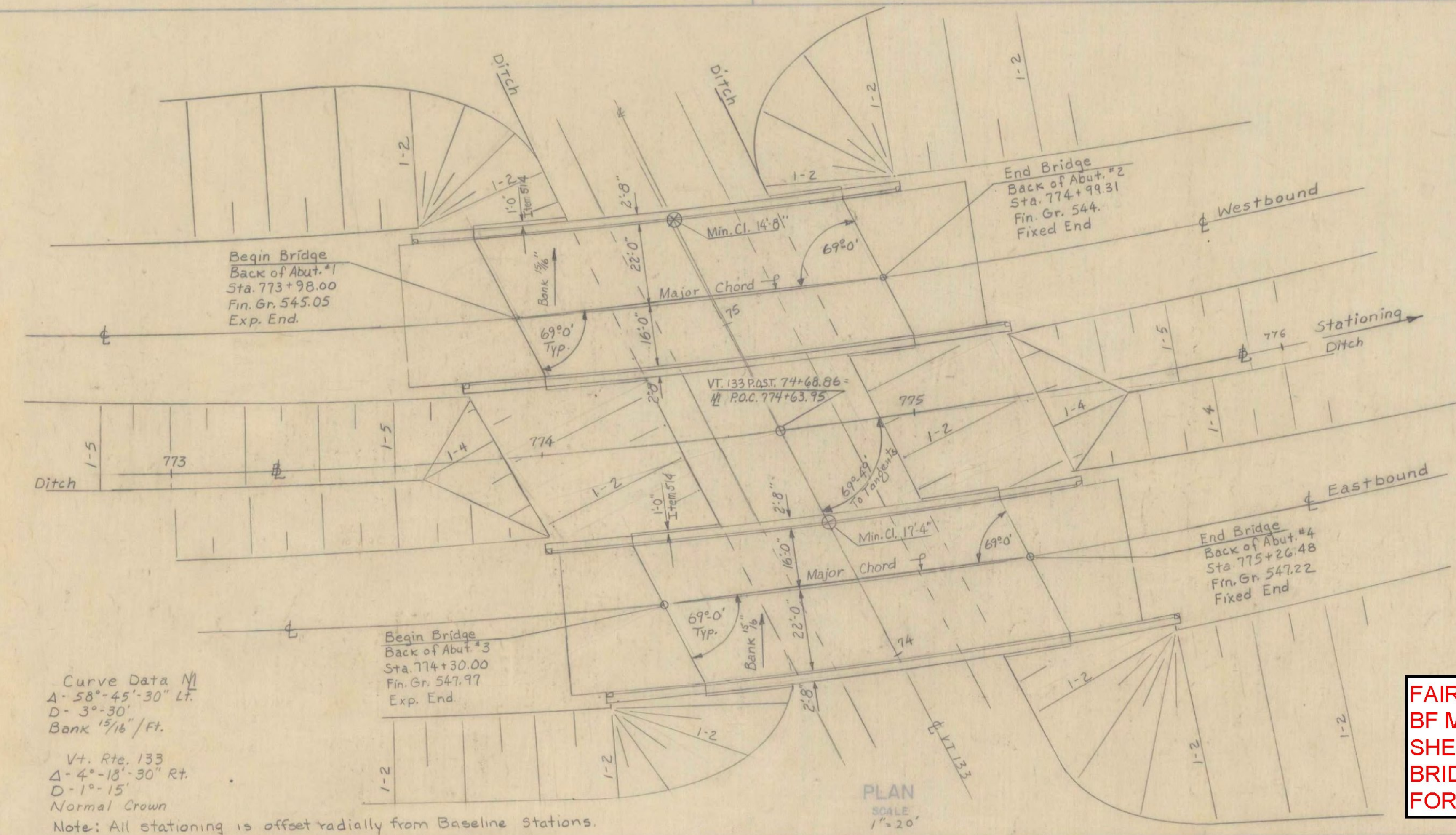
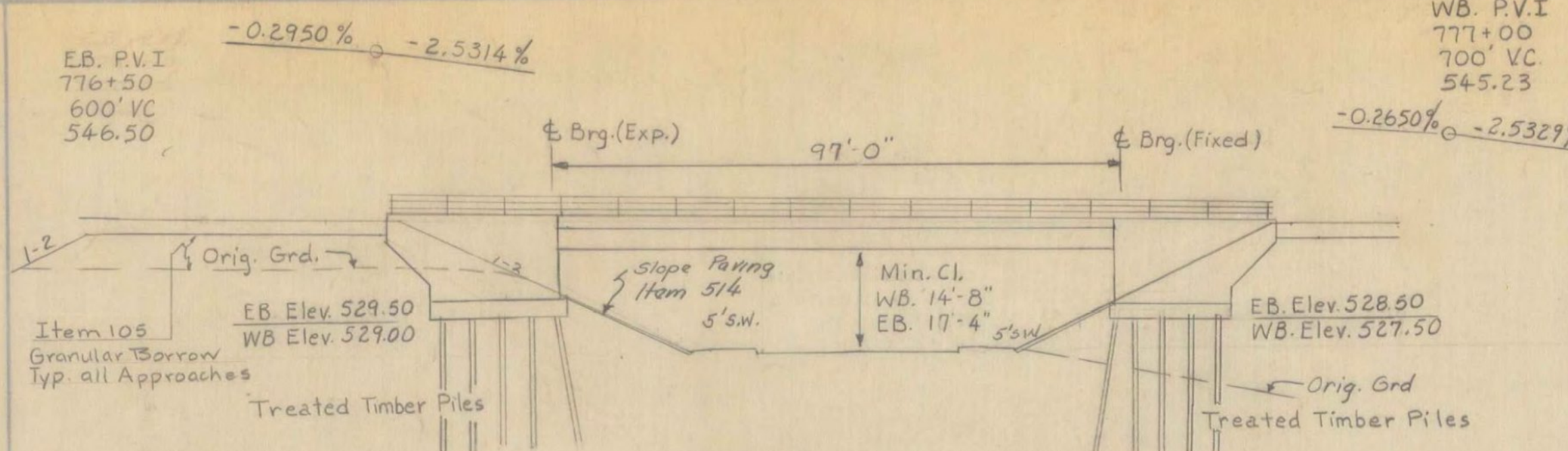
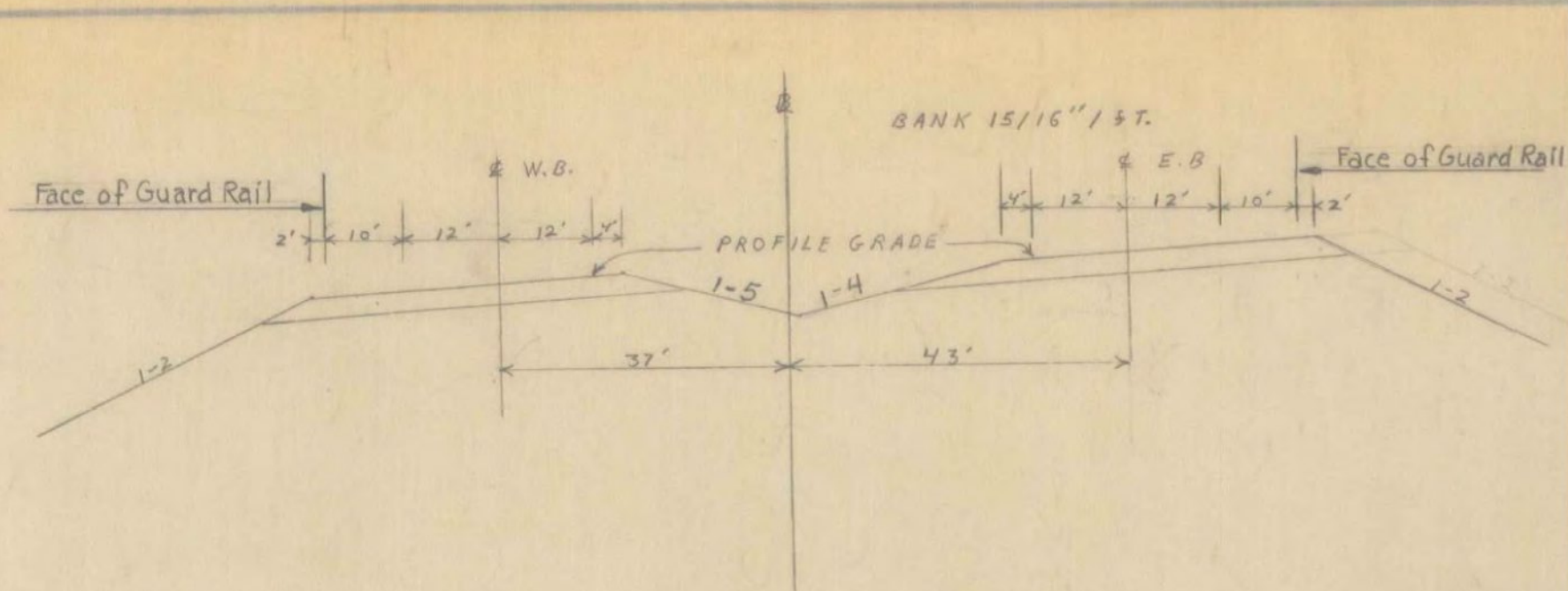
Note: All stationing is offset radially from Baseline stations.

PLAN
Scale: 1" = 20'

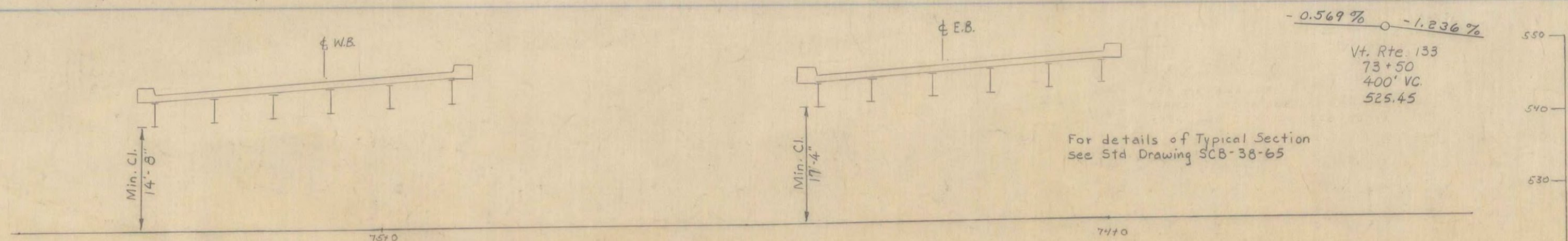
Design Allowable stresses
Concrete $f_c = 3000$ P.S.I. $f_c = 1200$ P.S.I.
Structural steel $f_s = 29000$ P.S.I.
Reinforcing Steel $f_s = 20,000$ P.S.I. Tension
16,000 P.S.I. Compression



ELEVATION ALONG EASTBOUND FASCIA
Scale: 1" = 20'



FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 39 OF 44
BRIDGE NO. 15E
FOR REFERENCE ONLY



HIGHWAY NO. U.S.-4 NAME OF HIGHWAY Reloc. U.S.-4
STRUCTURE NO. SE-B3 COUNTY RUTLAND TOWN WEST RUTLAND
PROJECT NO. AP-020-1(10) LOCATION RELOCATED U.S.-4 OVER VT. 133

EXISTING STRUCTURE

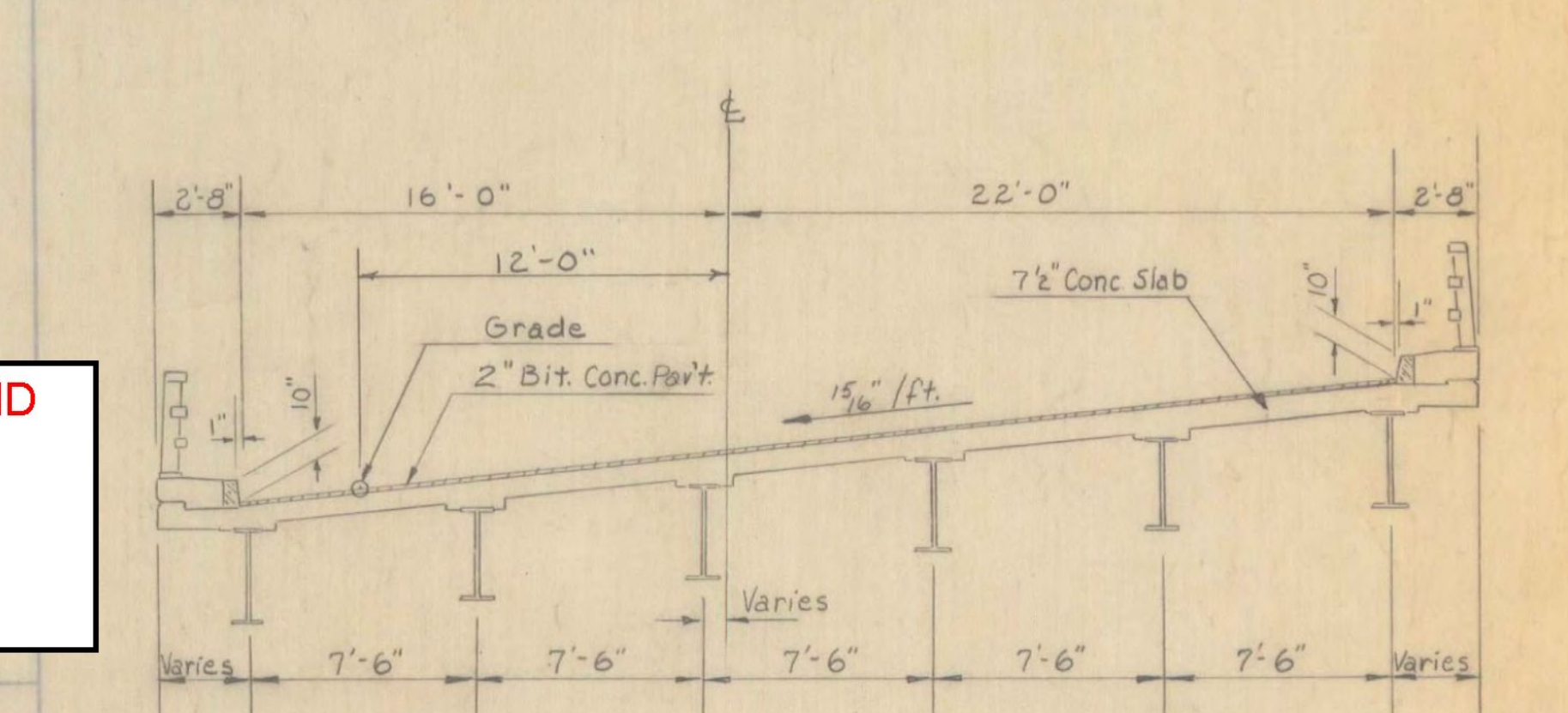
1. RATED LOADING OF EXISTING STRUCTURE
2. TYPE OF EXISTING STRUCTURE
3. UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE? COST OF REMOVAL
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE?
6. SHOULD NEW TEMPORARY STRUCTURE BE BUILT?
7. ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE WATERWAY TO ORDINARY H.W.
8. EXTREME HIGH WATER AT EXISTING STRUCTURE WATERWAY TO EXTREME H.W.
9. SPAN OF EXISTING BRIDGE UPSTREAM WATERWAY TO EXTREME H.W.
10. SPAN OF EXISTING BRIDGE DOWNSTREAM
11. TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS
12. DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE?
13. IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED?
14. ADDITIONAL WATERWAY AREA PROVIDED

NEW STRUCTURE

1. RECOMMENDED TYPE OF STRUCTURE SINGLE SPAN WF Composite Beam SCB-38-65
2. RECOMMENDED CLEAR SPAN OR SPANS 99'
3. MEASURED PARALLEL TO NEW HIGHWAY 99'
4. MEASURED AT RIGHT ANGLES TO STREAM NA
5. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? ANSWER YES OR NO NA
6. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE NA
7. EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE NA SOURCE OF INFORMATION
8. IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? NA
9. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? NA IS ORDINARY RISE RAPID?
10. LOW WATER ELEVATION AT NEW STRUCTURE NA
11. DRAINAGE AREA IN ACRES ABOVE STRUCTURE NA CHARACTER OF TERRAIN
12. IS STREAM EVER DRY? NA
13. VELOCITY OF STREAM AT HIGH WATER STAGE NA ESTIMATED DISCHARGE
14. AREA FULL OPENING NA AREA BELOW ORDINARY H.W.
15. CHARACTER OF SCOUR NA DRIFT ICE
16. ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE NA
17. VERTICAL CLEARANCE ABOVE FLOOD ELEVATION NA
18. ARE SIDEWALKS REQUIRED? IF SO ON WHAT SIDE? VT. 133 BOTH SIDES YES
19. RECOMMENDED TYPE OF PAVEMENT 2" BITUMINOUS CONCRETE 7 1/2" CONCRETE SLAB
20. TRAFFIC TO BE MAINTAINED UNDER ITEM NO. ONE OR TWO WAYS PROBABLE COST
21. PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE NA
22. SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?
23. ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS 20 Tons SHOULD PILES BE USED? YES EST LGTH. Treated Timber Piles

FOUNDATION INFORMATION

OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BOULDERS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.



RECOMMENDED FOR APPROVAL E. H. Stebbins 11/5/65
CONST. ENGINEER DATE

RECOMMENDED FOR APPROVAL Sam Byom 11/5/65
BRIDGE ENGINEER DATE

RECOMMENDED FOR APPROVAL R. H. Arnold 11/5/65
ASST. CHIEF ENGINEER DATE

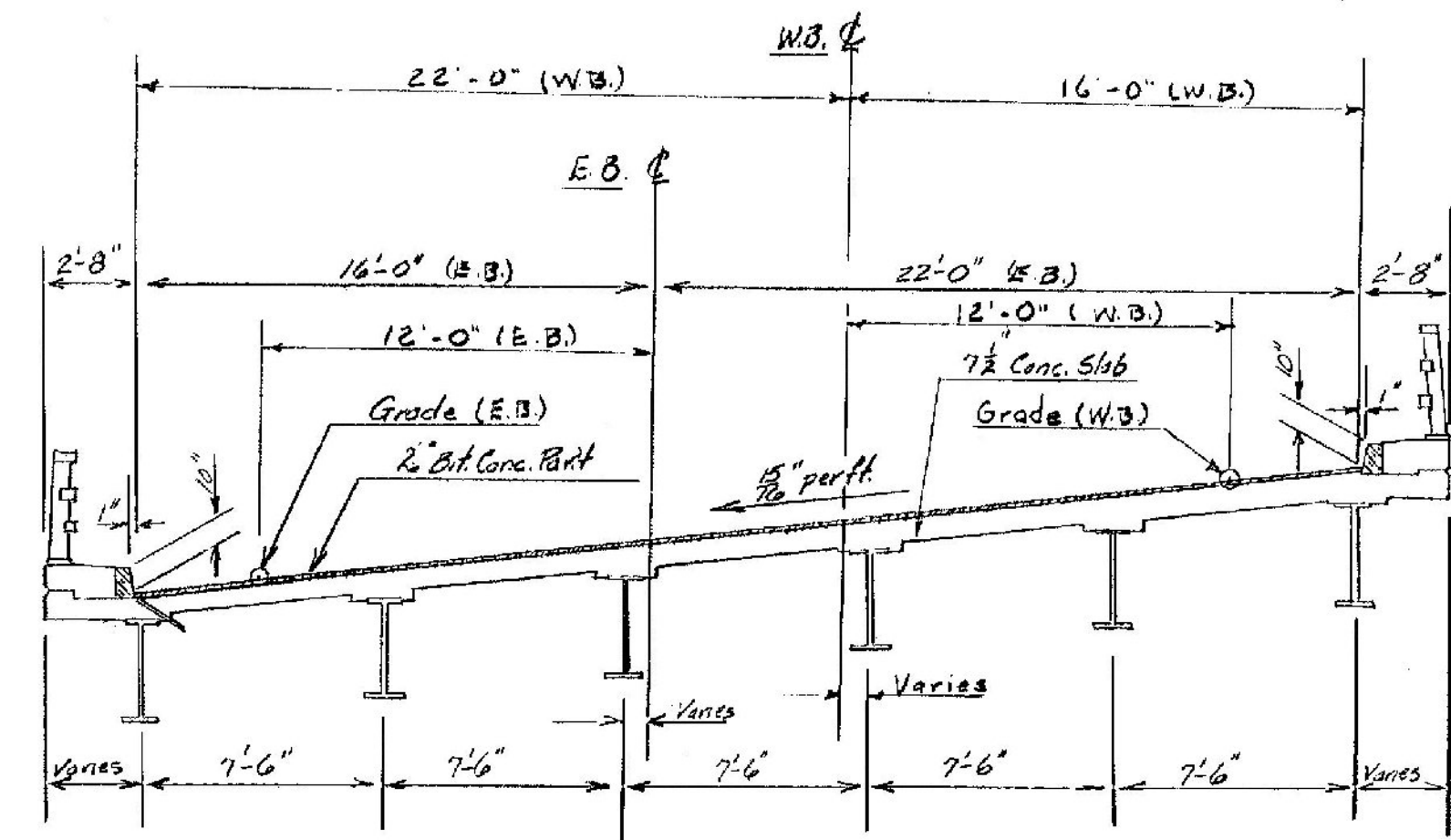
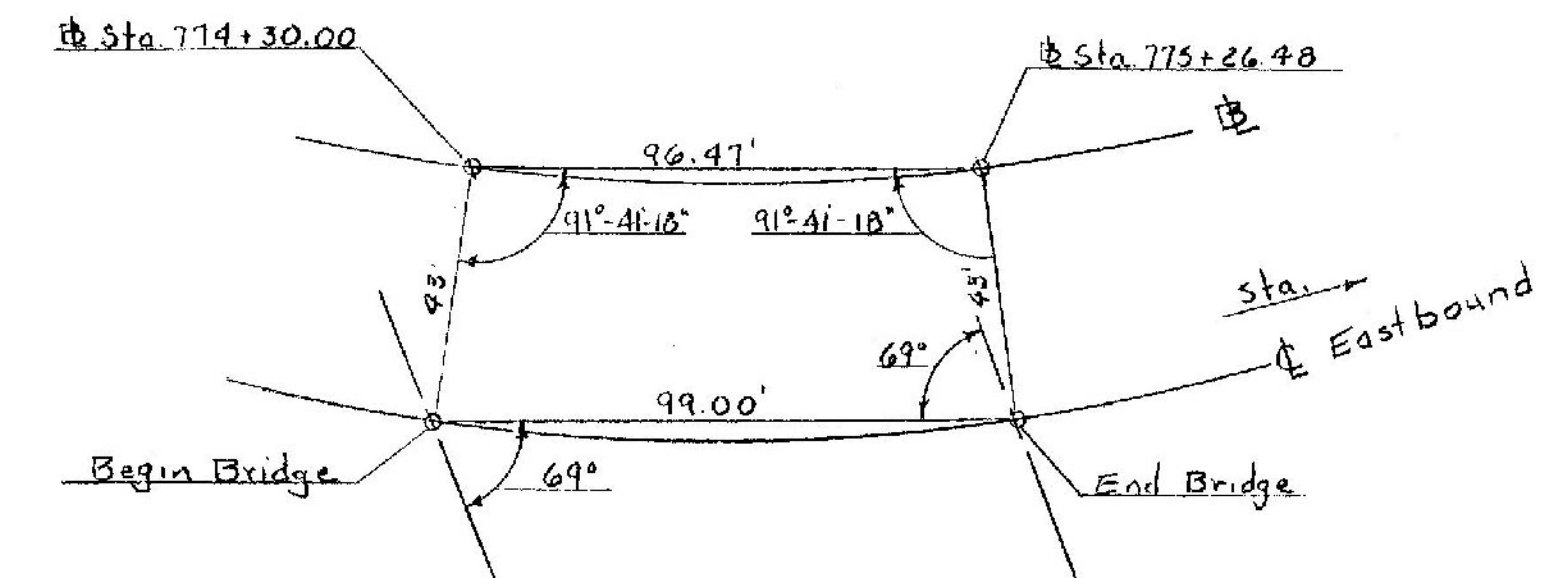
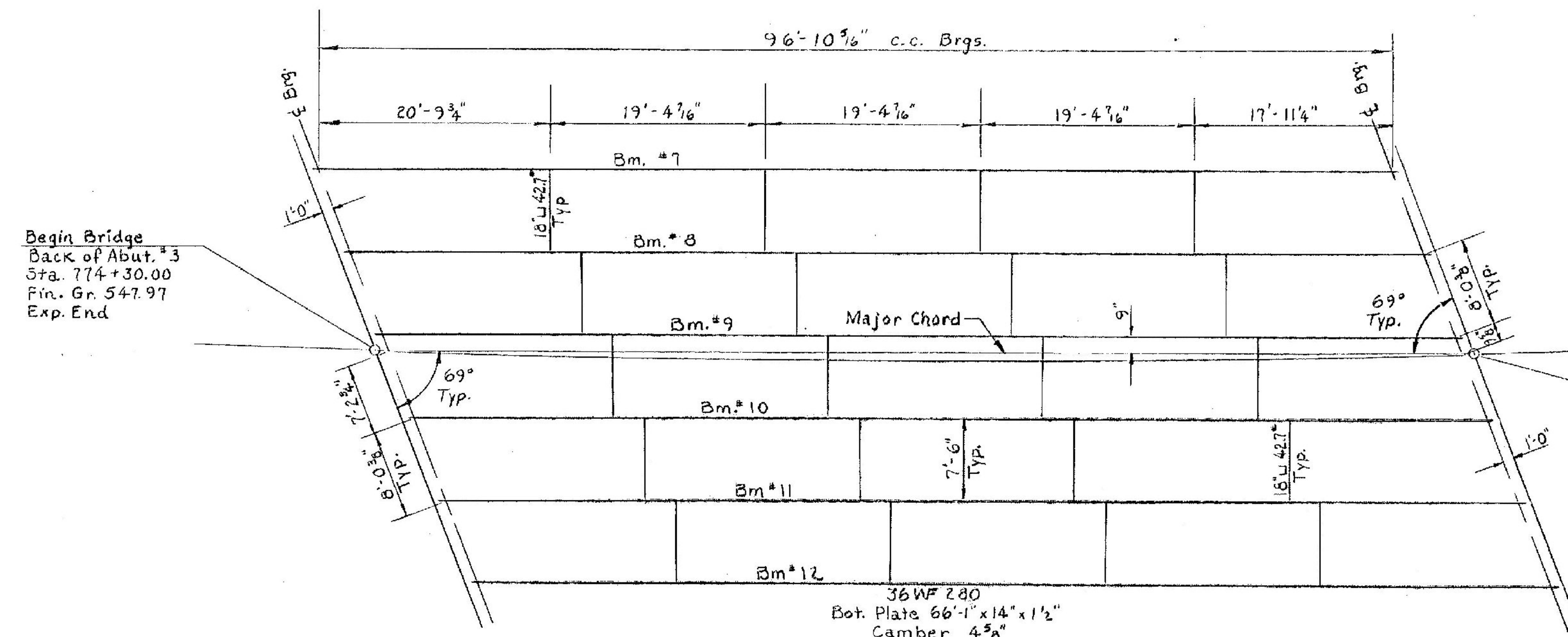
APPROVED BY A. S. Bulfinch 11/5/65
CHIEF ENGINEER DATE

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

Reloc. U.S.-4 IN THE TOWNS OF
WEST RUTLAND

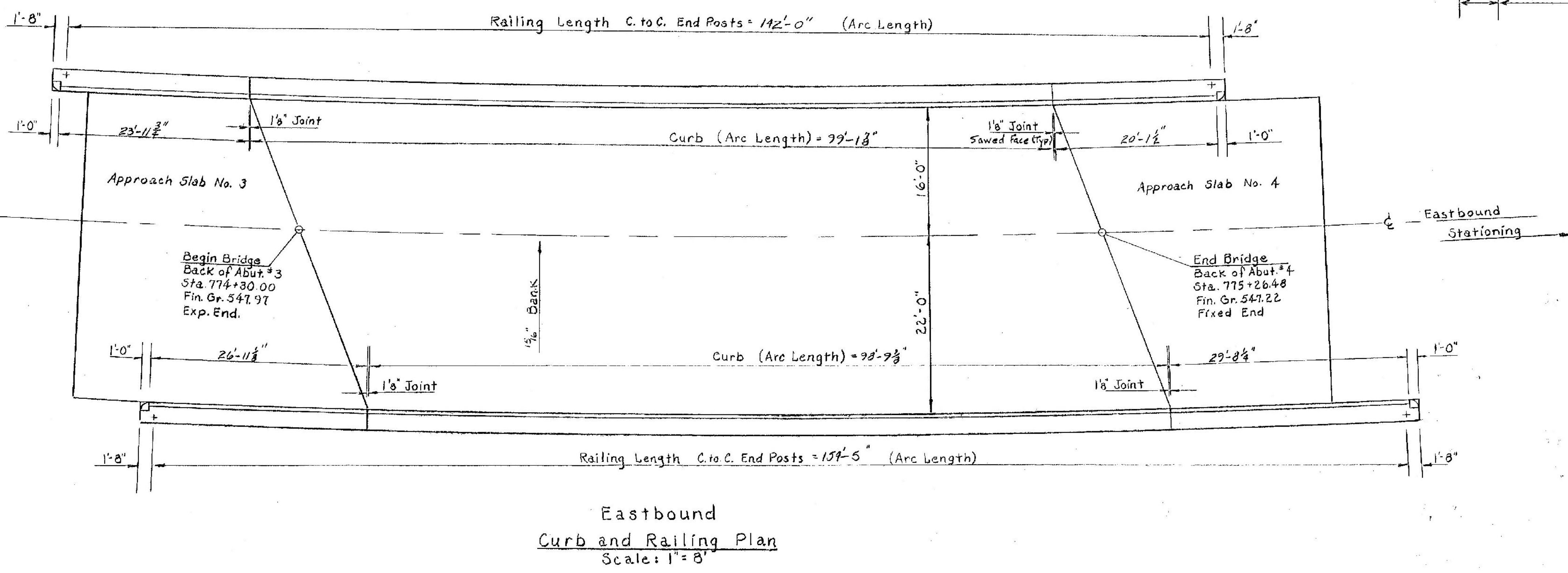
ROUTE NO. U.S.-4 STA. 774+50
Reloc. U.S.-4 over Vt. 133

SUPERVISED BY DEMETH CHECKED BY RAO SCALE AS NOTED
DRAWN BY DEMETH IN CHARGE DATE 28 JUL 65
PROJECT NO. AP-020-1(10) SHEET 145 OF 359

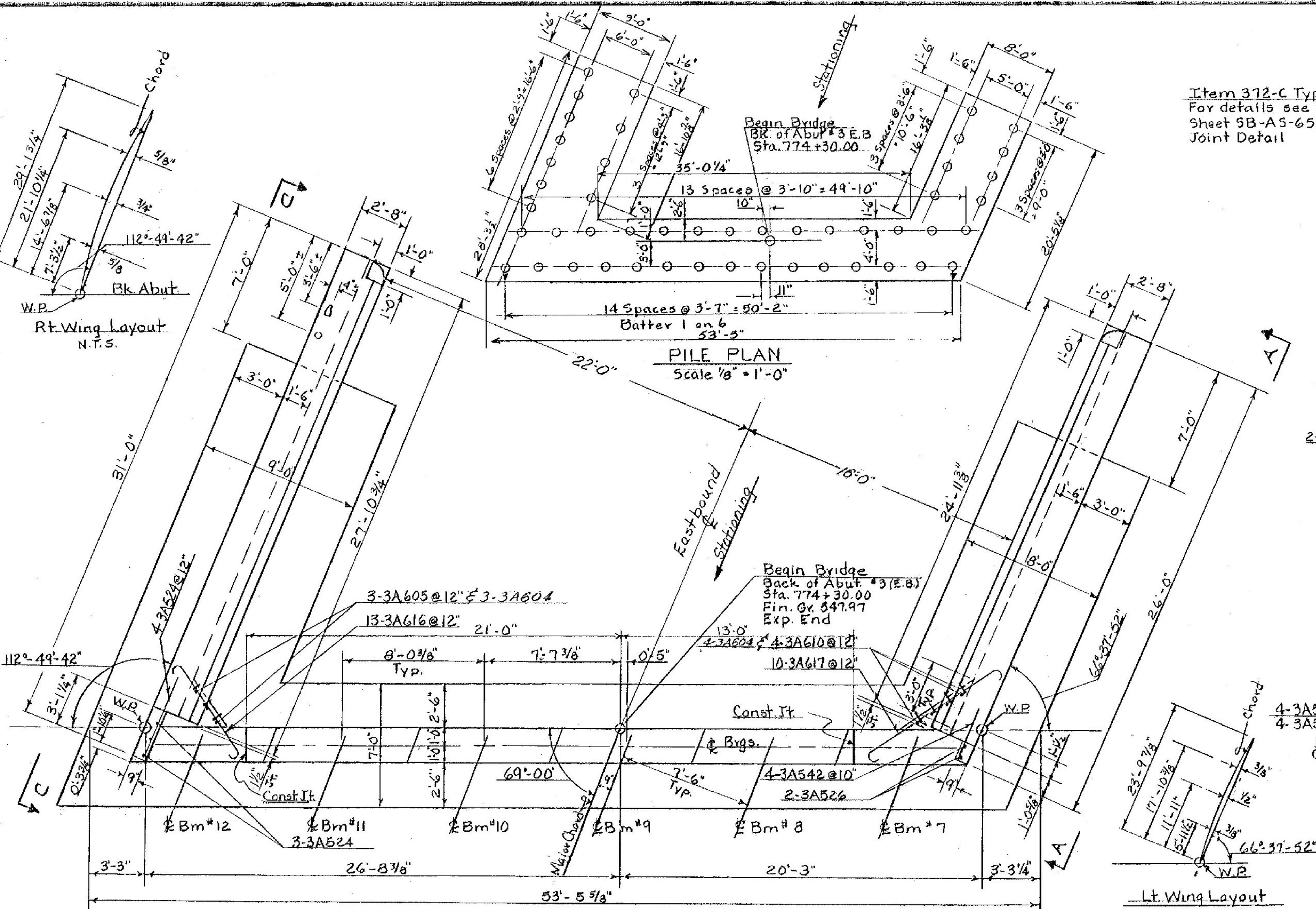


NOTES
1. See notes on sheet BR 304

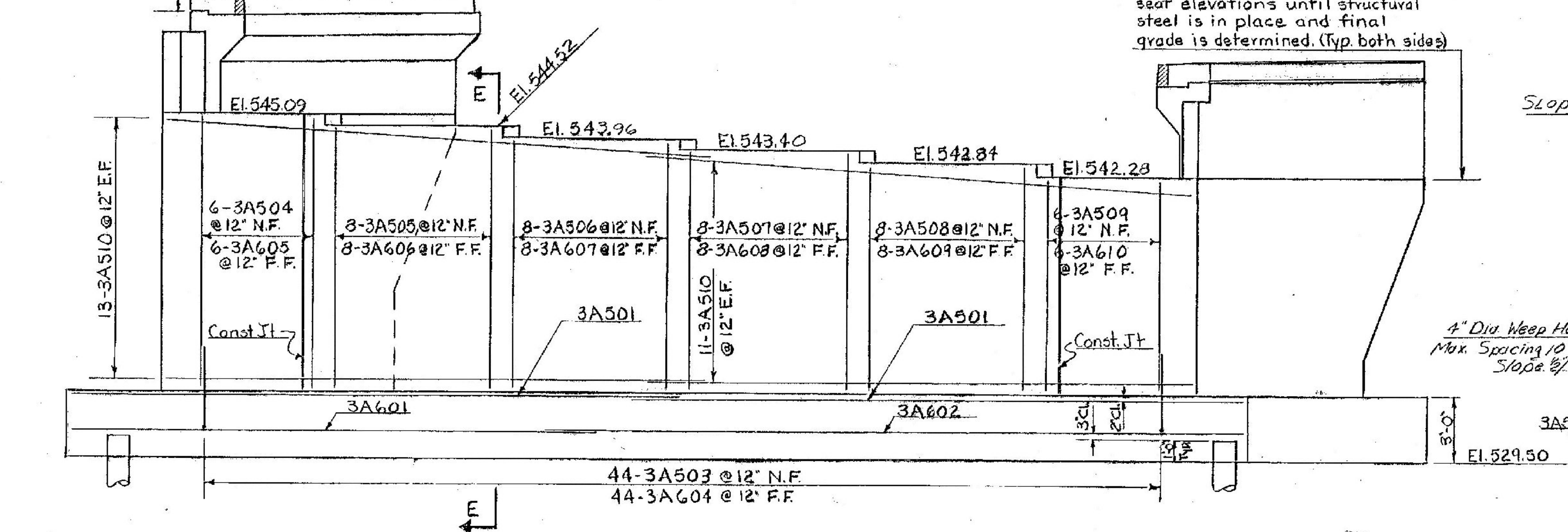
FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 40 OF 44
BRIDGE NO. 15E
FOR REFERENCE ONLY



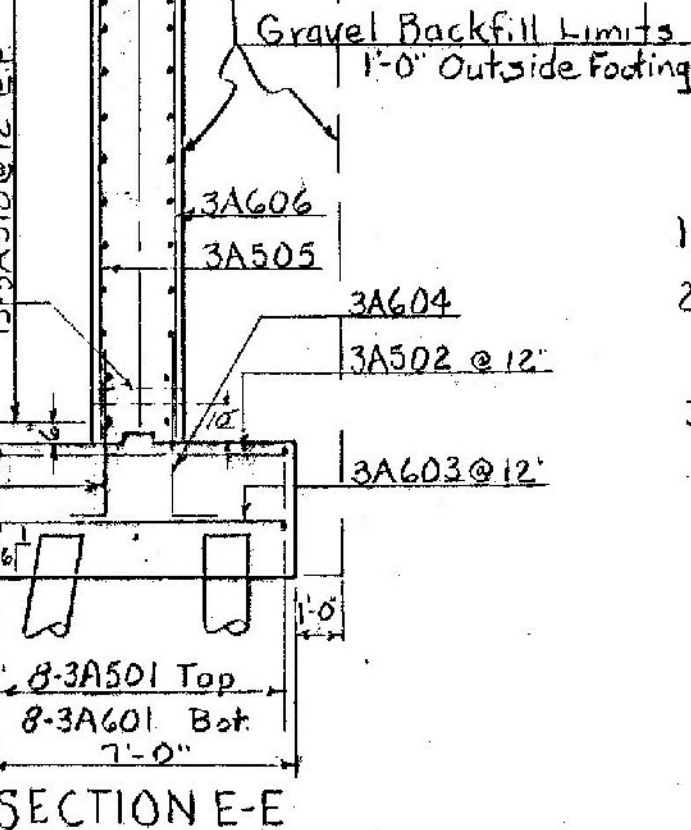
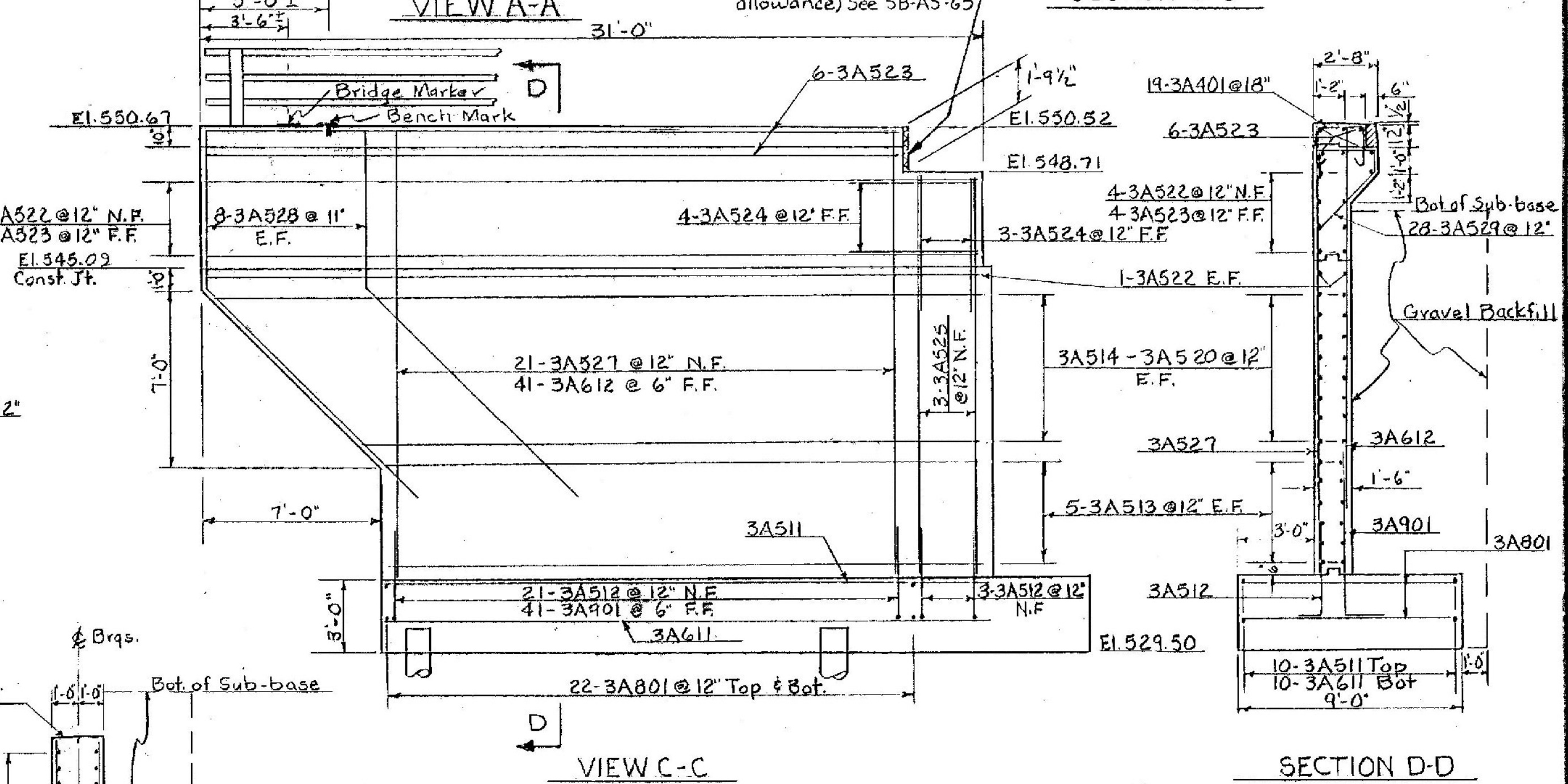
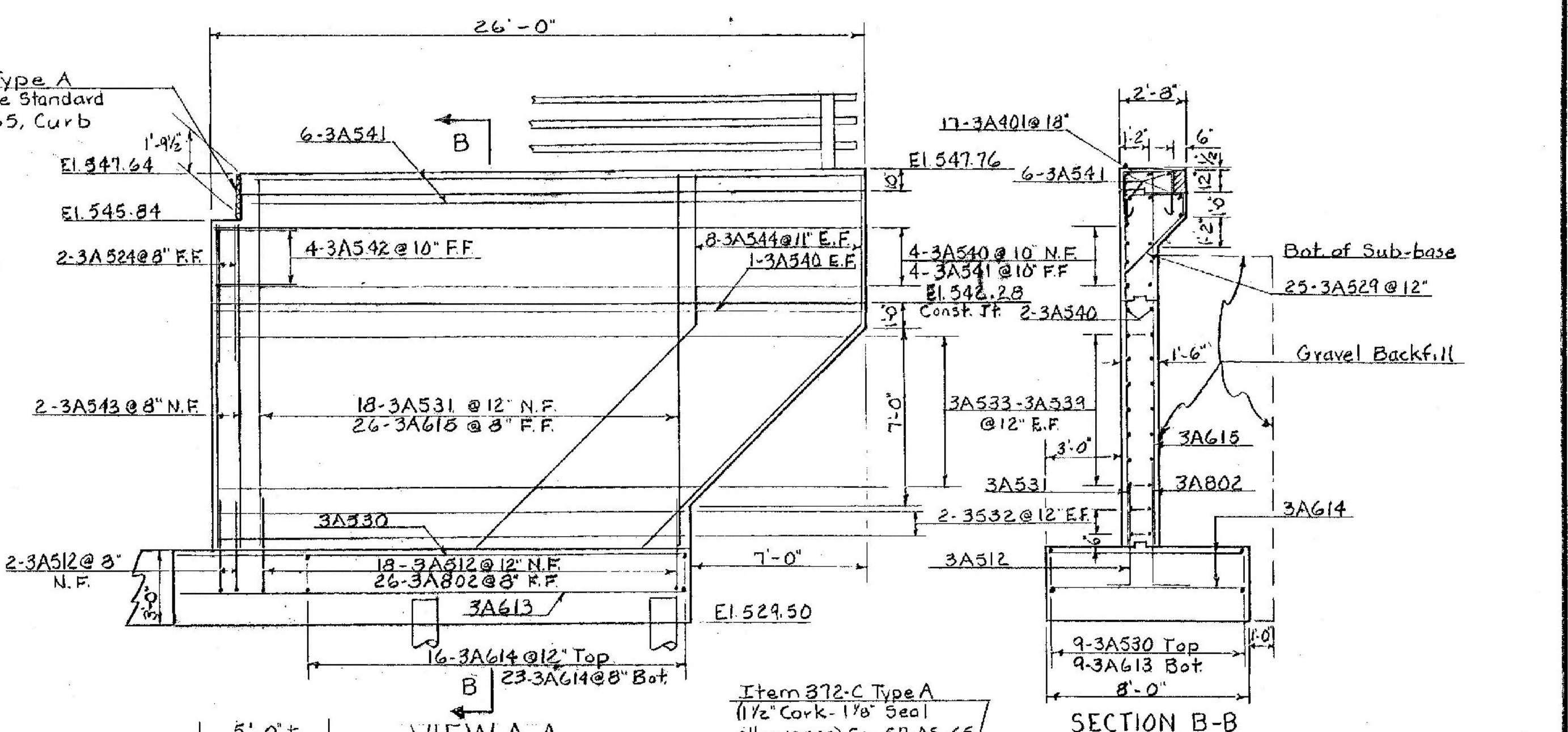
STATE OF VERMONT DEPARTMENT OF HIGHWAYS	
PROJECT - WEST RUTLAND	
TOWN OF WEST RUTLAND	
ROUTE No. US 4	STA. 774+30.00
RELOC. US 4 OVER VT. 133	
E.B. FRAMING, CURB AND RAILING PLAN	
SCALE - As Noted	
IN CHARGE - W. SCUTTLER	
DRAWN BY J. WOOD CHECKED BY D. W. B. B. B.	
PROJECT No. P020-1(10)	
SHEET 40 OF 44 - BR 303	



For details of construction joint at curb see typical section of superstructure. Standard Sheet 3CB-38-65 and 3CB-D6-65.



Item 372-C Type A
For details see Standard Sheet SB-A5-65, Curb Joint Detail



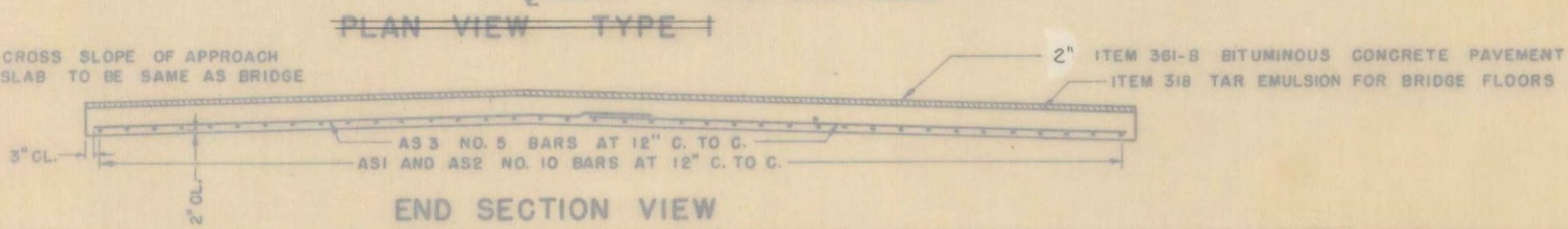
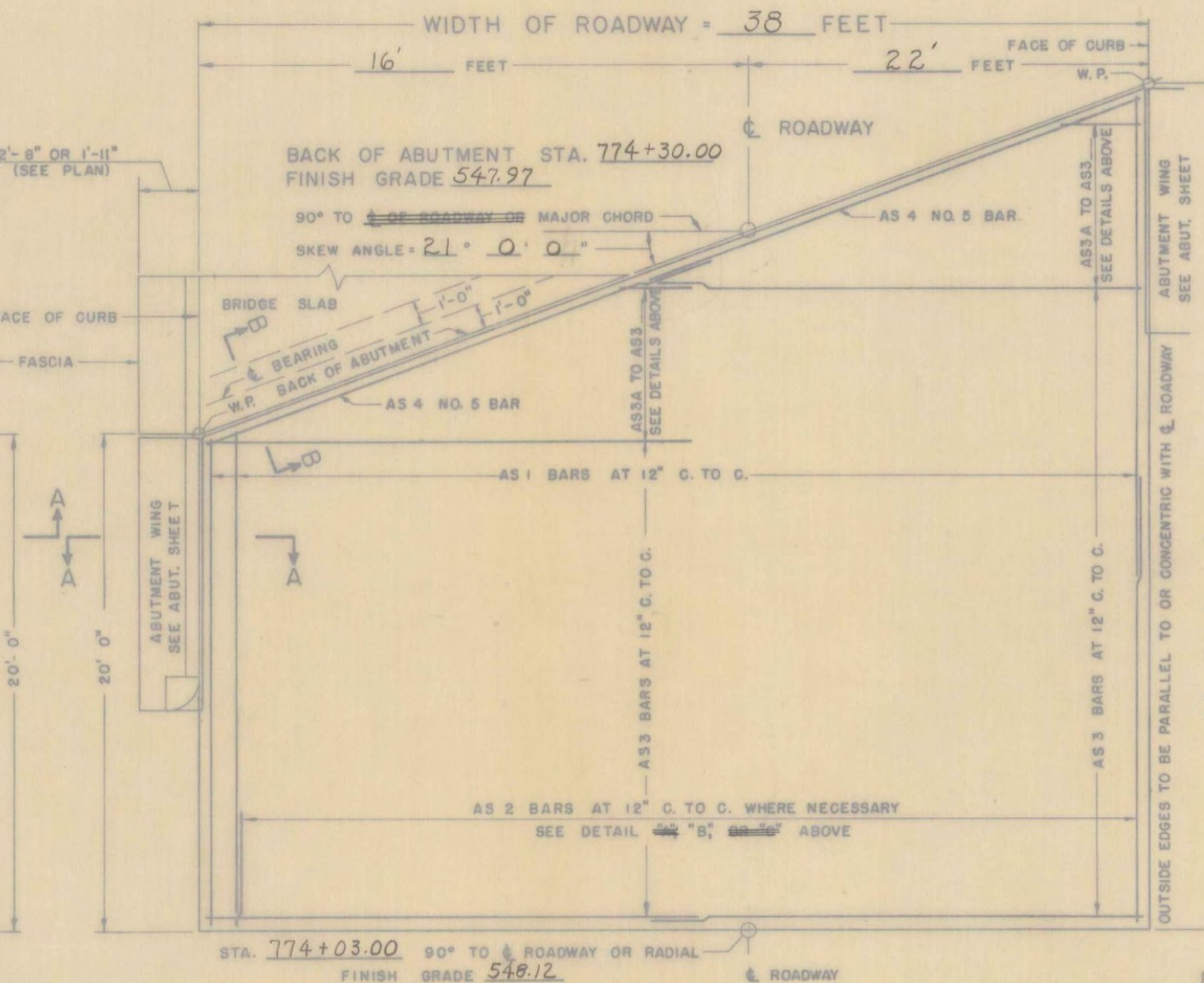
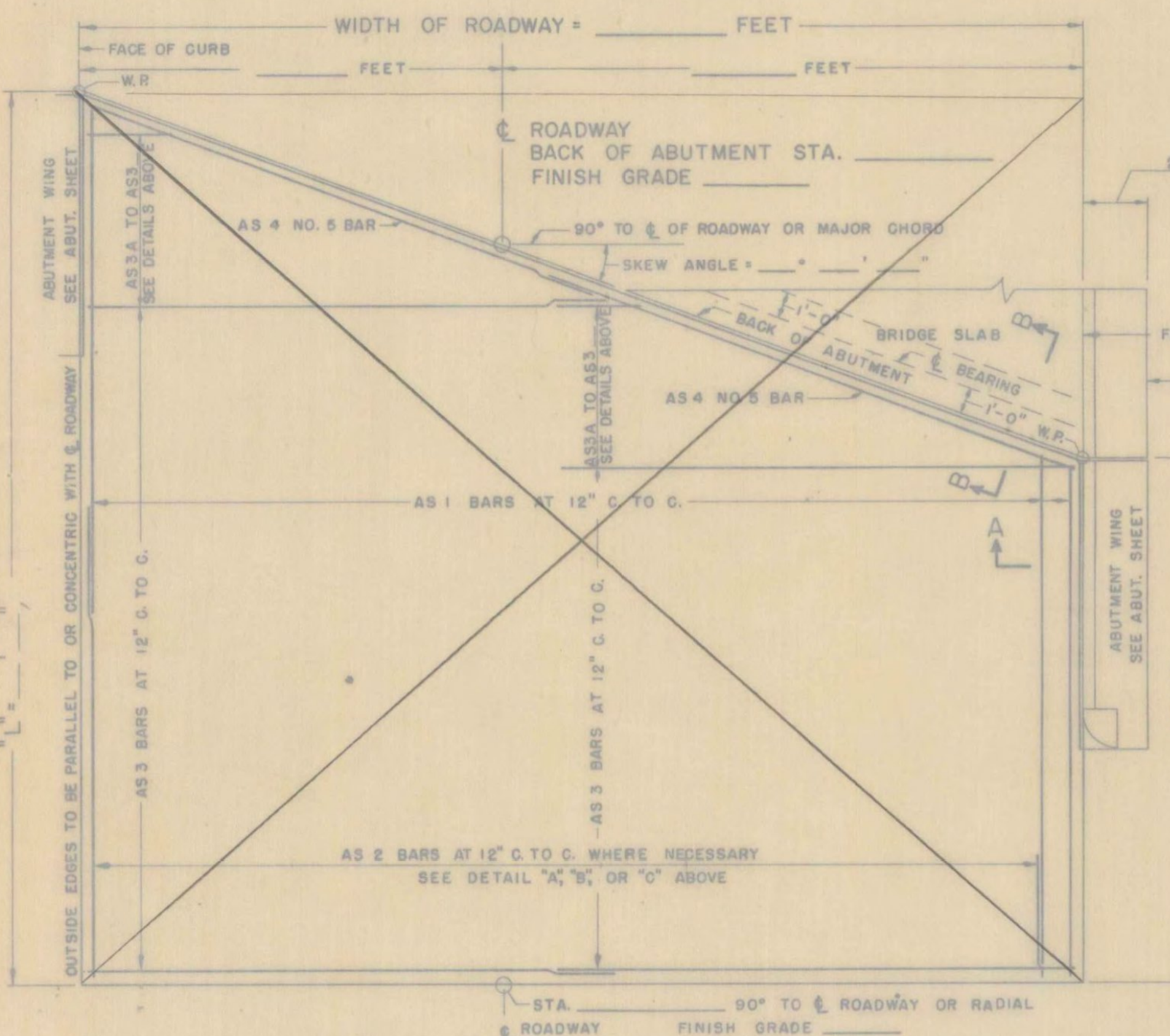
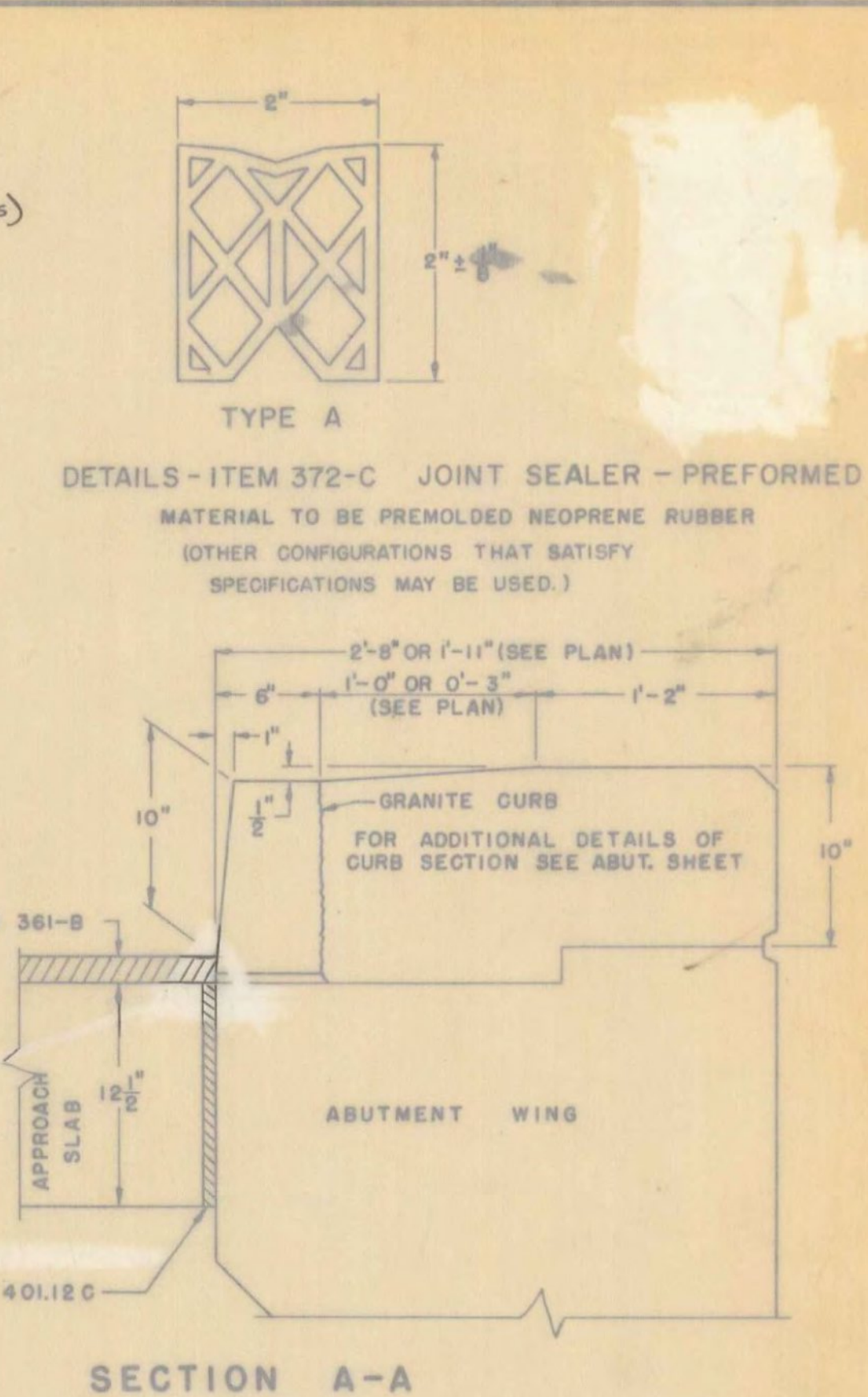
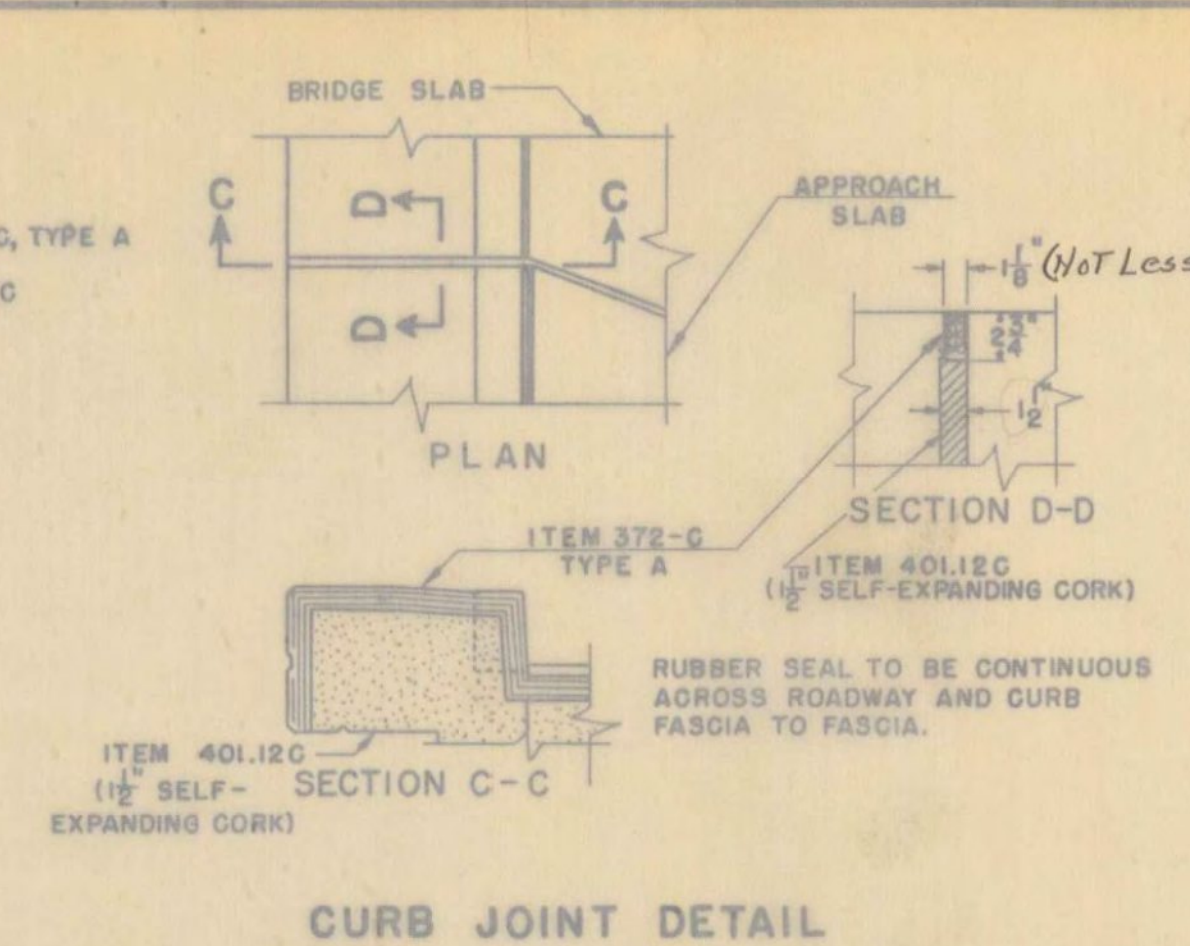
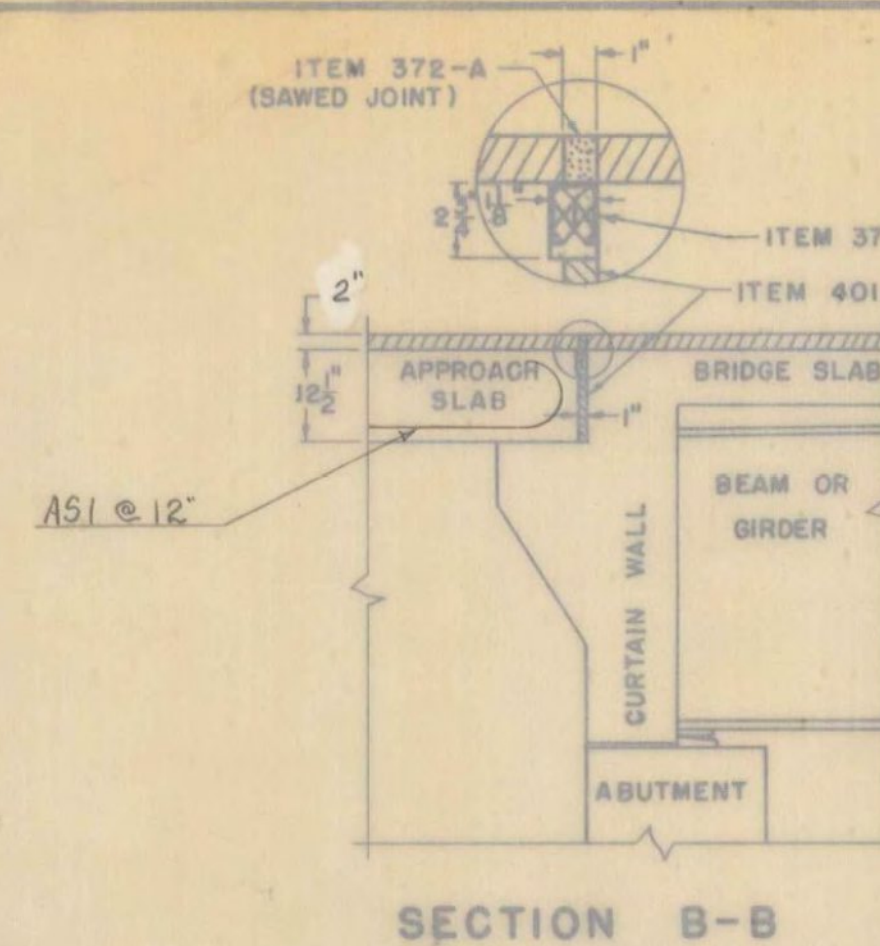
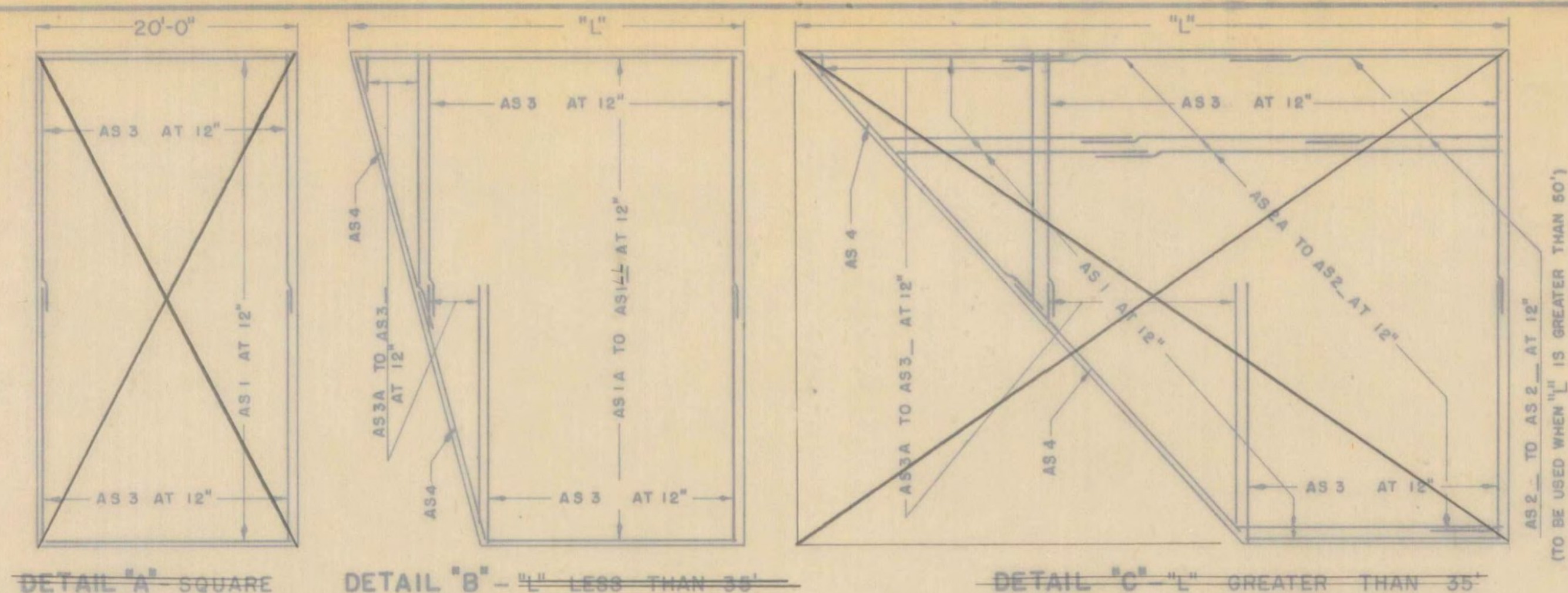
NOTES

- For general notes see BR-300
- All piles shall be driven to a minimum bearing capacity of 20 Tons.
- 48 Treated Timber Piles. Estimated Length 25'

**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 41 OF 44
BRIDGE NO. 15E
FOR REFERENCE ONLY**

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT WEST RUTLAND
TOWN OF WEST RUTLAND
ROUTE NO US 4 STA. 774+50.5
RELOC. US 4 OVER VT 133
ABUTMENT #3 (E.B.)
SCALE 1/4" = 1'-0" or as noted
IN CHARGE D. S. SMITH
DRAWN BY Quallate CHECKED BY D.W. Seal
PROJECT NO. AK920-1149
SHEET 151 OF 359 BR-308



GENERAL NOTES
 1. ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR HS20-44 LOADING.
 2. ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.

**FAIR HAVEN - WEST RUTLAND
 BF MEMB (35)
 SHEET 43 OF 44
 BRIDGE NO. 15E
 FOR REFERENCE ONLY**

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL	FINAL
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.		
361	BITUMINOUS CONCRETE PAVEMENT MOD.	TONS		
372-A	JOINT SEALER - HOT POURED	L.F.		
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.		
372-C	JOINT SEALER - PREFORMED, TYPE B	L.F.		
401-B	CONCRETE CLASS B	CY.		
402	REINFORCING STEEL	LB.		

REINFORCING BENDING DETAILS

DETAIL SHOWN IS FOR AS1 BAR
 ALL OTHER BARS ARE TO BE STRAIGHT

REINFORCING STEEL		REINFORCING STEEL	
A	B	C	A+B+C
BAR NO.	LENGTH	WEIGHT PER FT.	WEIGHT IN LBS.
AS1	SEE REINFORCING SCHEDULE	4.303	
AS2	SEE REINFORCING SCHEDULE	4.303	
AS3	SEE REINFORCING SCHEDULE	1.043	
AS4	SEE REINFORCING SCHEDULE	1.043	
TOTAL WEIGHT =			

REVISIONS AND CORRECTIONS
 1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED. 4/15/65 W.B.T.
 2. DIMENSIONS OF JOINT SEALER TYPE B REVISED AND MODIFICATION OF ITEM 372-C ADDED. 8/23/65 W.B.T.

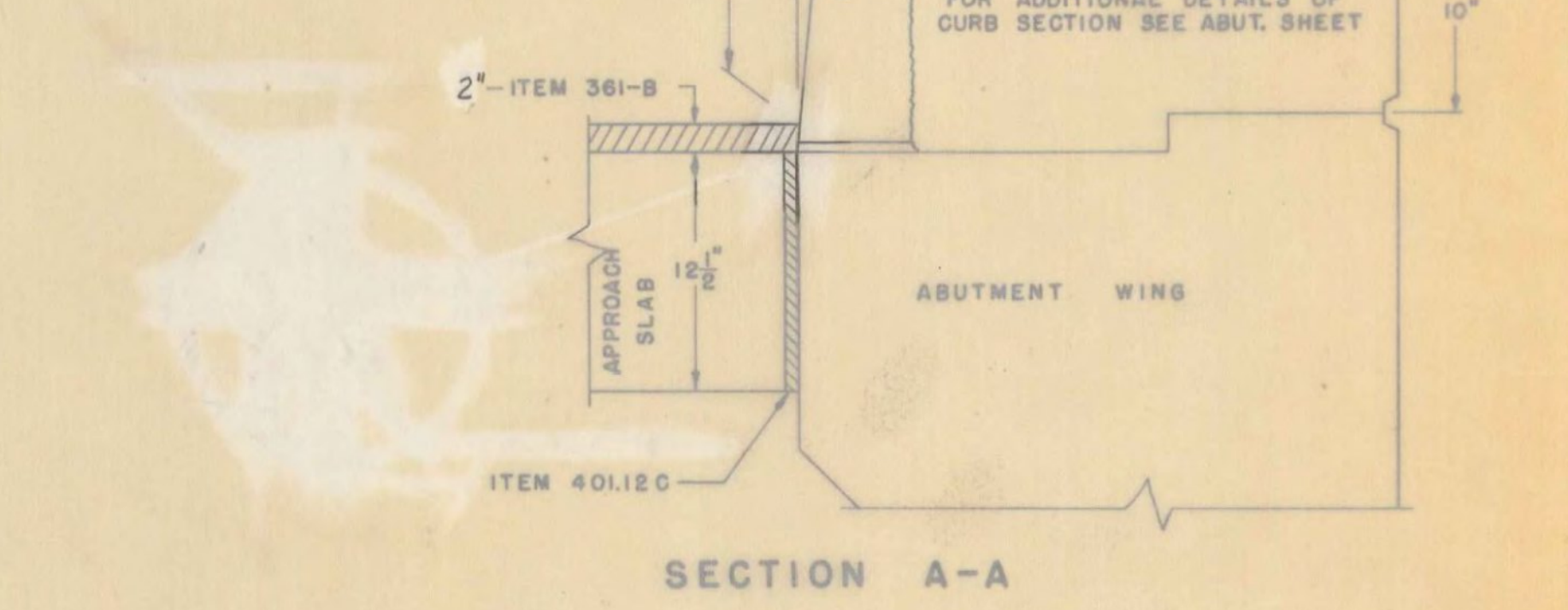
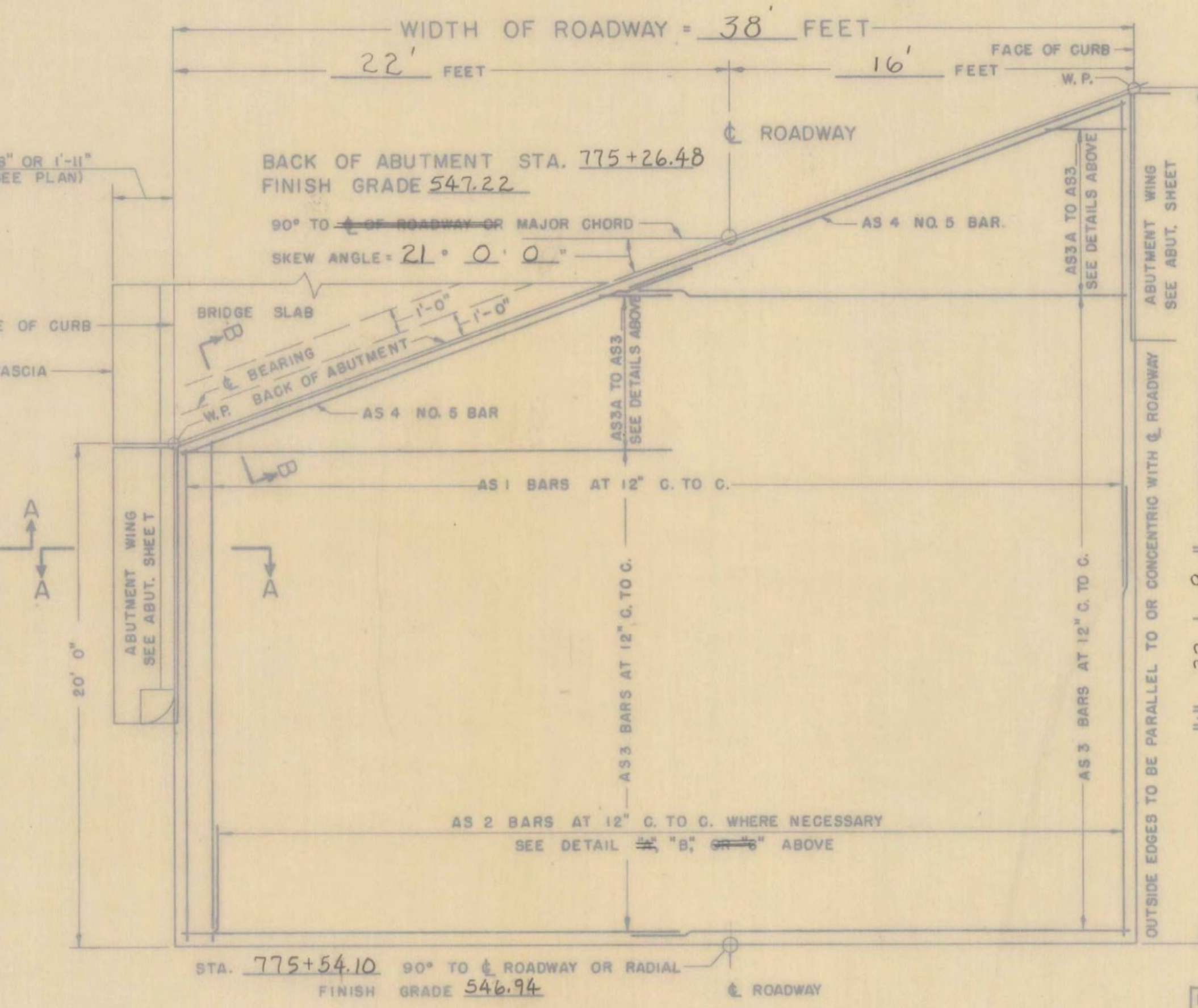
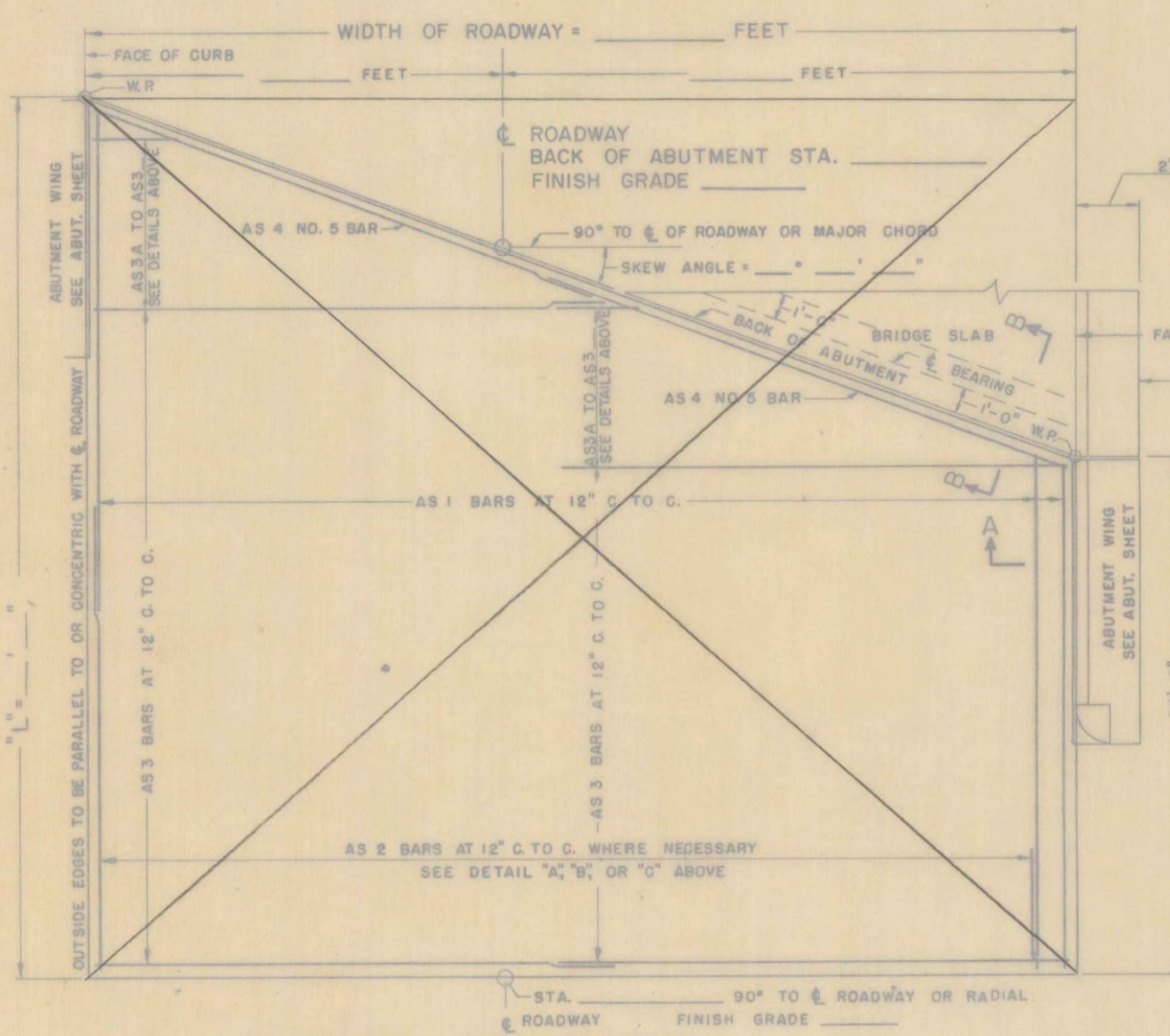
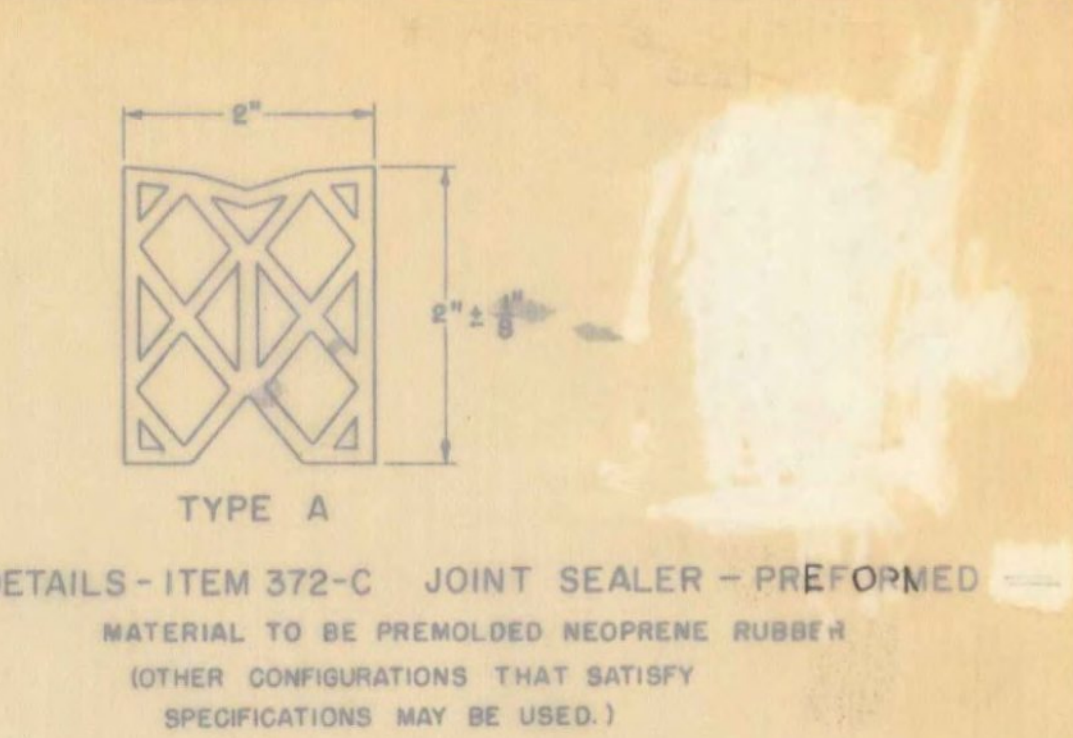
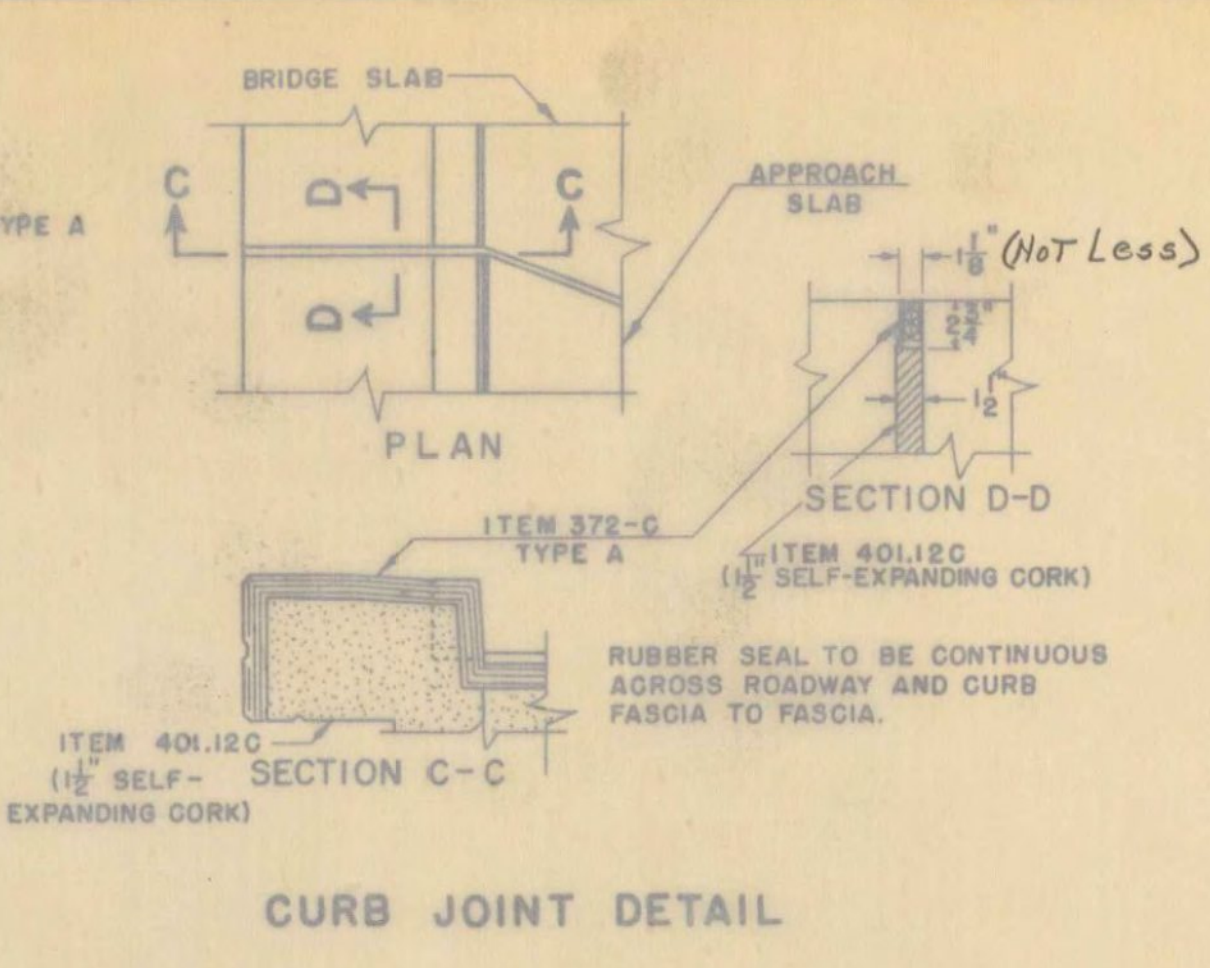
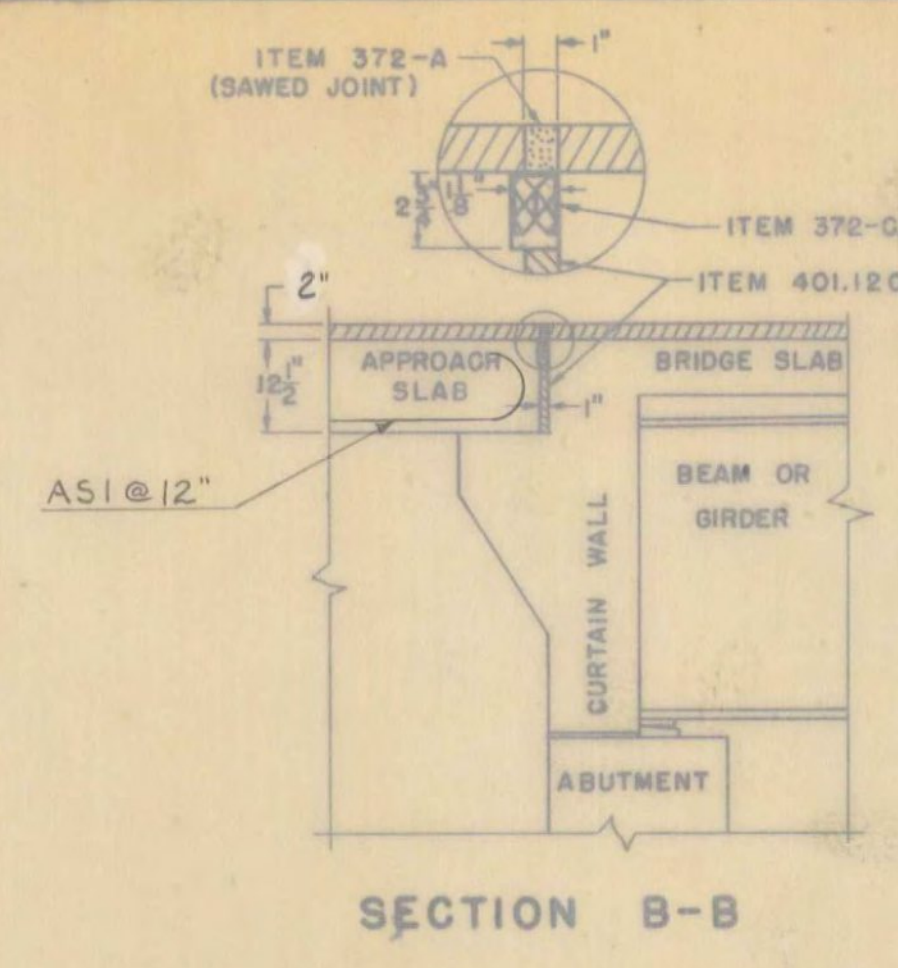
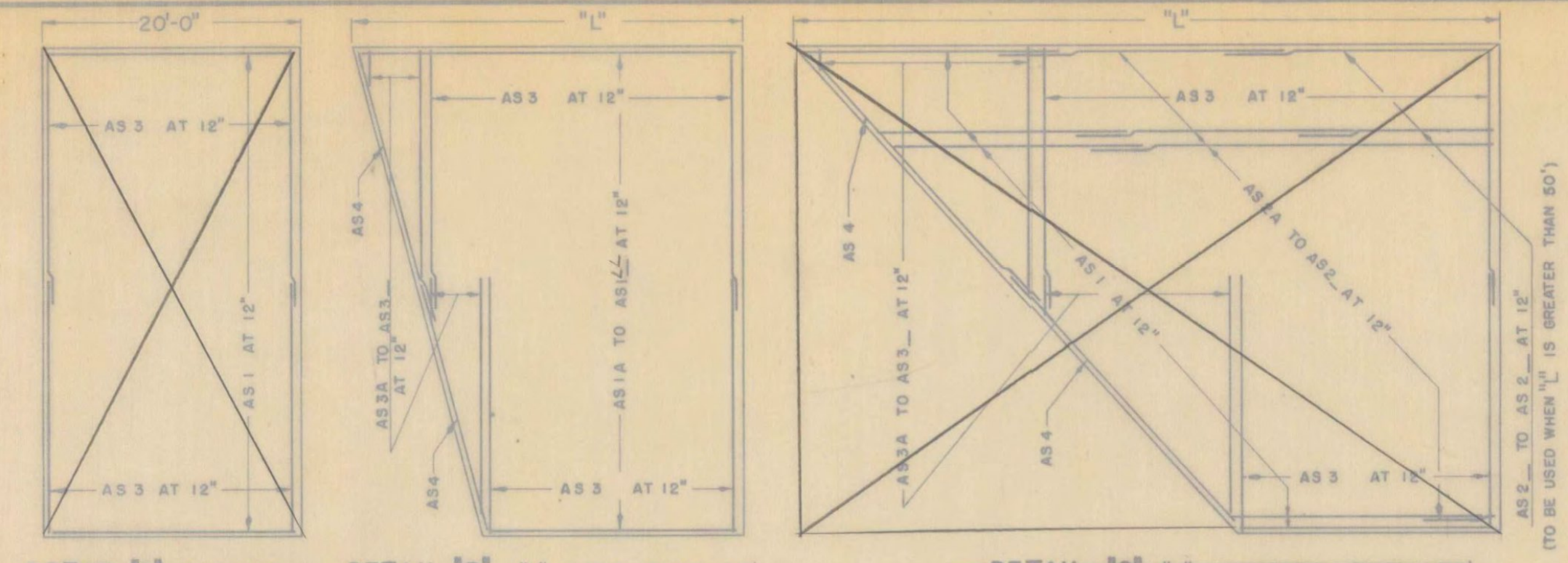
DRAWN BY: W.B.T. Jan. 1965
TRACED BY: W.B.T. Jan. 1965
CHECKED BY: W.M.S. Feb. 1965

RECOMMENDED FOR APPROVAL: *[Signature]* 2/4/65
 BRIDGE ENGINEER DATE
RECOMMENDED FOR APPROVAL: *[Signature]* 2/4/65
 ASSISTANT CHIEF ENGINEER DATE
APPROVED BY: *[Signature]* 2/4/65
 CHIEF ENGINEER DATE

**DETAILS OF APPROACH SLAB
 FOR 38'-0" FOOT BRIDGE**
 (WIDTH)
 TO BE USED FOR BRIDGE AT STATION 774+50
 LOCATION APPROACH SLAB NO. 3 (E.B.)

**STATE OF VERMONT
 DEPARTMENT OF HIGHWAYS
 STANDARD STRUCTURE
 SB-AS-65**

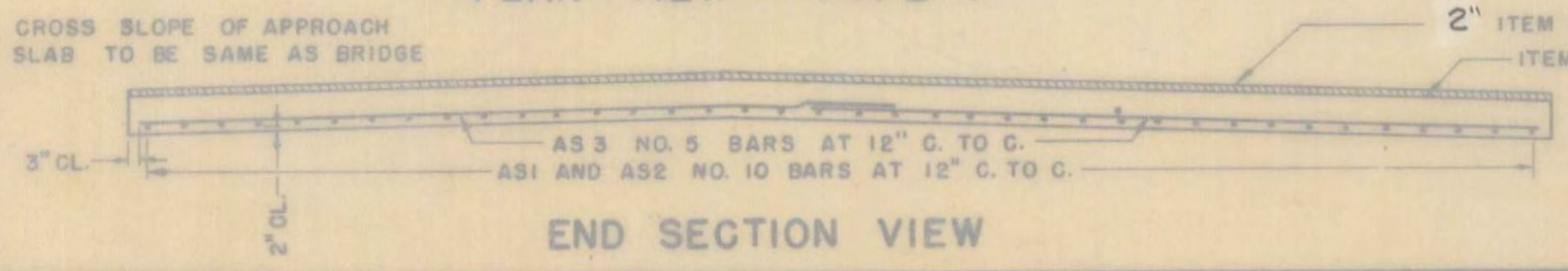
TOWN OF TRA WEST RUTLAND
ROUTE NO. RELOC. US 4
STA. 774+50 ±
DESIGNED BY J. WOOD **CHECKED BY** D. SAAL
PROJECT NO. AP 020-1(20)
BR 312 OF 315 **SHEET 155 OF 359**



GENERAL NOTES

- ALL WORK AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL 1964, AND THE A.A.S.H.O. SPECIFICATIONS DATED 1961. DESIGNED FOR HS20-44 LOADING.
- ALL REINFORCING STEEL SHALL BE DETAILED ON THE REINFORCING STEEL SCHEDULE. ALL SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS.

**FAIR HAVEN - WEST RUTLAND
BF MEMB (35)
SHEET 44 OF 44
BRIDGE NO. 15E
FOR REFERENCE ONLY**



SUMMARY OF QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL	FINAL
318	TAR EMULSION FOR BRIDGE FLOORS	GAL.		
361	BITUMINOUS CONCRETE PAVEMENT MOD.	TONS		
372-A	JOINT SEALER - HOT POURED	L.F.		
372-C	JOINT SEALER - PREFORMED, TYPE A	L.F.		
372-C	JOINT SEALER - PREFORMED, TYPE B	L.F.		
401-B	CONCRETE CLASS B	CY.		
402	REINFORCING STEEL	LB.		

REINFORCING BENDING DETAILS

DETAIL SHOWN IS FOR AS1 BAR
ALL OTHER BARS ARE TO BE STRAIGHT

REINFORCING		STEEL	
BAR NO.	NO. PIECES	LENGTH	WEIGHT PER FT. IN LBS.
AS1	SEE SCHEDULE		4.303
AS2	SEE SCHEDULE		4.303
AS3	SEE SCHEDULE		1.043
AS4	SEE SCHEDULE		1.043
TOTAL WEIGHT			

REVISIONS AND CORRECTIONS

1. DIMENSIONS OF JOINT FOR SEALER TYPE A REVISED. 4/15/65 W.B.T.

2. DIMENSIONS OF JOINT SEALER TYPE B REVISED AND MODIFICATION OF ITEM 372-C ADDED. 6/25/65 W.B.T.

DRAWN BY: W.B.T. Jan. 1965
TRACED BY: W.B.T. Jan. 1965
CHECKED BY: W.M.S. Feb. 1965

RECOMMENDED FOR APPROVAL: [Signature] 2/4/65
RECOMMENDED FOR APPROVAL: [Signature] 2/4/65
APPROVED BY: [Signature] 2/4/65

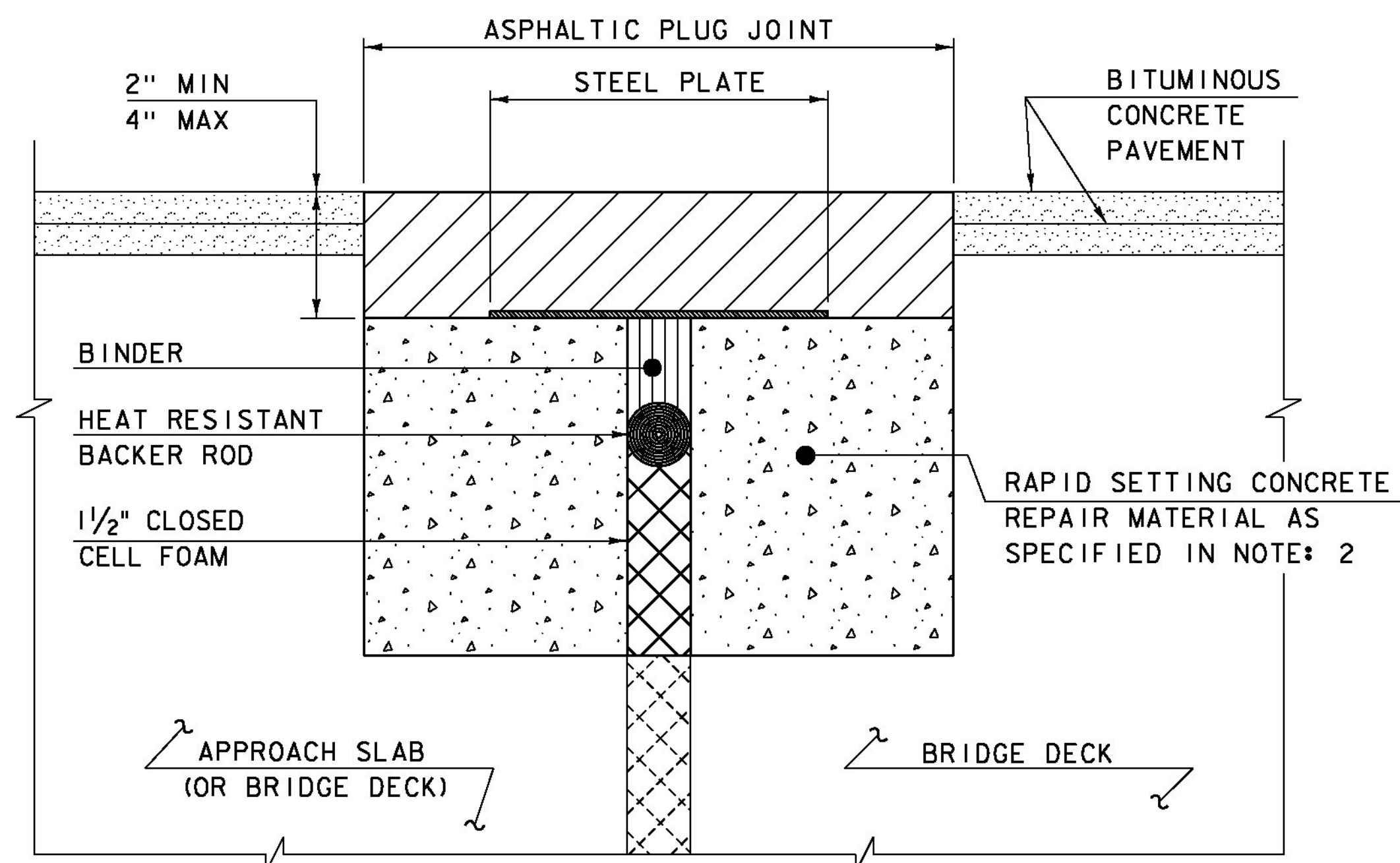
**DETAILS OF APPROACH SLAB
FOR 38' FOOT BRIDGE**

TO BE USED FOR BRIDGE AT STATION 774+50
 LOCATION APPROACH SLAB NO. 4 (E.B.)

**STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
STANDARD STRUCTURE
SB-AS-65**

TOWN OF WEST RUTLAND
ROUTE NO. RELOC. U.S. 4
STA. 774+50 ±

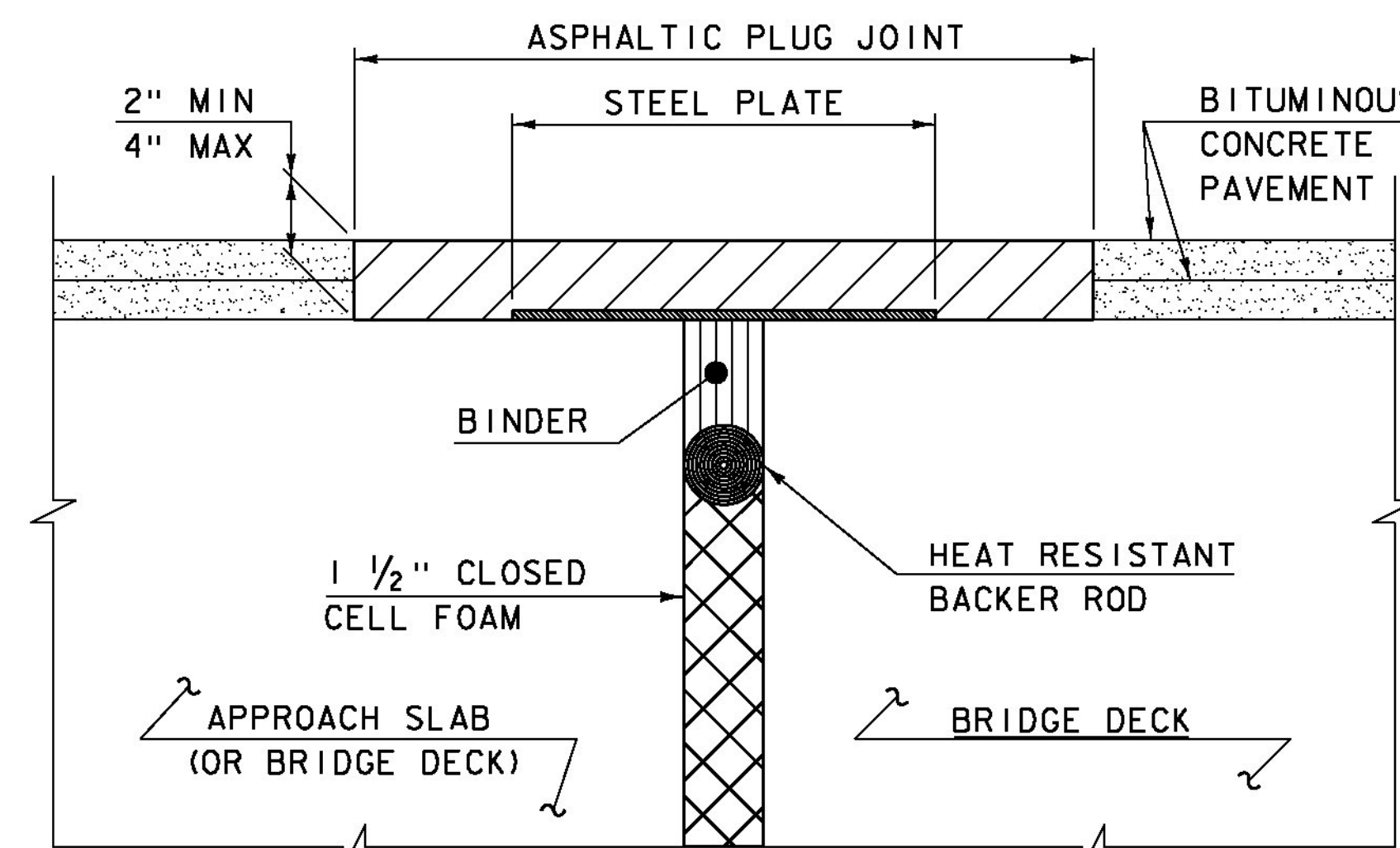
DESIGNED BY J. Wood **CHECKED BY** D. Saal
PROJECT NO. AP-020-1(10) **12-65**
BR 313 OF 315 **SHEET 156 OF 359**



ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

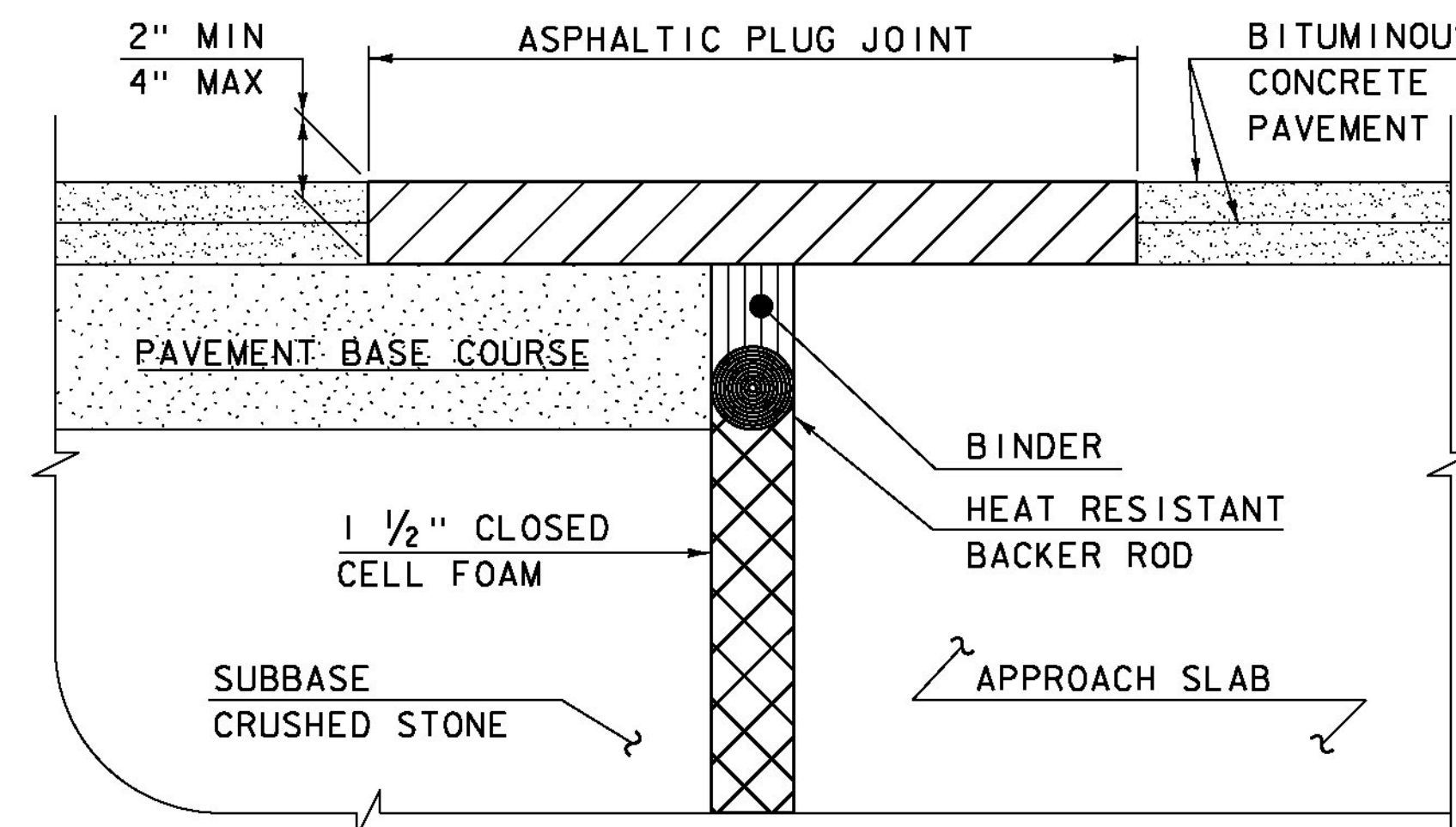
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:

PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

ASPHALTIC PLUG JOINT NOTES

INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

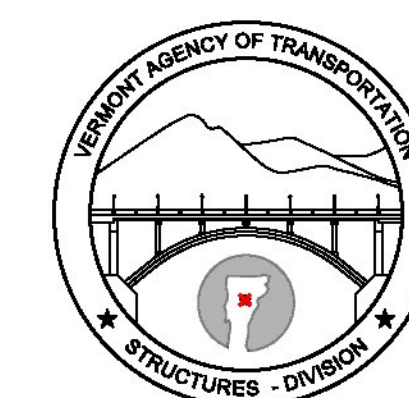
APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

**BRIDGE JOINT
ASPHALTIC PLUG**



**STRUCTURES
DETAIL
SD-516.10**